



## FACTORY BUILDING CHIEFLY IN RELATION TO THE WELFARE OF THE WORKER.

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**W**HEN one considers the variety of manufactures carried on in this country, each presenting a different demand for accommodation, it at once becomes evident that a paper of this kind can only deal with the general principles governing the problems which the architect may be called upon to solve. Diverse as the requirements of the special manufacture may be in regard to their main purpose, one important consideration should be common to them all—*i.e.*, adequate provision for the welfare of the worker, a subject the importance of which it has taken nothing less than a world war to bring home to the mind of the manufacturer and the nation at large. Four years of war have done more in this direction than half a century of peace, and now at the end, as we hope, of our days of trial and the beginning of a new era it seems fitting that we as architects should review, not alone the practical outcome of the activities of the past four years, but the causes and influences which have made this outcome possible.

I propose to discuss first the factory, as a factory, and the general considerations which of necessity regulate its plan so that it may be an efficient part in an efficient machine. The war with its demand for the production of munitions in large quantities created the demand for large factories, and gave the architect an unrivalled opportunity for the planning of large schemes from the date of their inception. Whether during the process of reconstruction this demand will continue it is not possible to say, but I feel sure you will agree that it is our business to discuss the matter in its largest aspect. I therefore propose to consider as briefly as possible the problems which would arise in dealing with a large factory upon a new site.

The first question would be the selection of a site. The location of this should be governed to some extent by the labour available in the district, and it follows almost without saying that a spot should be chosen either where there is a large working population close at hand, or in such a position that the workpeople can conveniently be conveyed to the works, either by rail, tram or motor-bus. Convenient access by rail is essential for the supply of raw materials and the despatch of the finished products. The proximity of a canal is also very desirable. All large works will require their own railway sidings and many of them a canal arm. It will, I think, usually be found there is a tendency to underestimate the quantity of railway siding required. Trucks, whether empty or full, occupy an equal amount of line, and any hitch in loading or unloading is likely to cause a congestion, and consequent friction with the railway company if sufficient facilities are not provided. If a canal arm is required it will be well to consider the position of it at an early stage, as it is likely to require a good deal of room, and need careful planning so that it may not interfere with the proper development of the site. Any enquiries for a site must be accompanied by investigations as to the water, gas, electricity, sewers and other services available, points too often neglected. Considerations with regard to the type of plan to be adopted largely affect the area of the site required, and this, in its

turn, depends upon the sites available in the district in which it is proposed to build, if for special reasons, such as the labour supply or the proximity of a supply of coal or raw material, some special district is decided upon. This naturally raises the general question of whether it is better—assuming no other considerations to be of paramount importance—to build upon one or more floors. Chiefly on account of the desire to erect buildings of a temporary character for the purpose of the manufacture of munitions of war the majority of the factory buildings put up during the last four years have been of one storey only, and I think there is a consensus of opinion among manufacturers that this is the most convenient type of plan; the reasons are not far to seek. The labour in moving raw material and the products in course of manufacture is reduced to a minimum, supervision is made easy, and the problem of lighting is simplified.

Owing to the shortage of steel during the period of the war, it became essential to resort to a type of roofing which dispensed with the necessity for its use, and at the same time did not make too great demand upon the timber supply; the result was that the Belfast type of roof was almost generally adopted. It has many disadvantages. The trusses have to be fairly close together and slightly restrict the daylight, and although countershafting can be suspended from it, it is not suitable for carrying a main driving shaft. Before the war the roof known as "saw tooth" was almost invariably adopted for one-storey shopping and the north light regarded as a *sine qua non*; with the Belfast roof an ordinary top light became essential. I recently had the opportunity of discussing this question of roof lighting with a works engineer, whose opinion I value very highly, as he has not only designed and erected a variety of workshops, but has supervised the work done in them afterwards, and had the opportunity of studying results. I will quote his conclusions as they were given to me:—"I have no hesitation in saying that the 'saw' type roof facing north is the most suitable of all roofs and particularly lends itself to easy and rapid construction. The principals can be made of steel, reinforced concrete or wood. The gutters can be made of cast iron, and when made of such, pockets can be cast on the sides of the gutters to take and support the wood principals, which makes it a very satisfactory and a fairly cheap job. If buildings are required for cranes, the building in such a case would have to be as follows:—Gantry, 20 to 25 feet high, and the eaves of the building 8 to 10 feet higher, making in all 30 to 35 feet. For such a building a span roof is very suitable, and the sun does not have the same effect when the roof is so high as when the eaves are only 12 to 14 feet high; in fact, a shop of the latter height should never be built in such a way that the sun can shine through the roof, but this does not apply when the roof is 30 to 35 feet high."

It is a curious anomaly that it should be generally agreed that sunshine is essential in a house, whereas a very large body of opinion regards it as a nuisance in a factory. With the large roof area one gets in a one-storey factory of any size the question of the disposal of storm water is one which needs more careful consideration than is usually given to it; in a heavy storm the volume of water to be dealt with is considerable, and the size of the drains provided needs to be calculated carefully, especially as it is improbable that any great fall will be obtainable owing to the long lengths of drain and the level of the site, which obviously should be as flat as possible. A return to normal conditions will doubtless result in a return to former methods of construction, and although the Belfast roof has stood us in good stead during the past few years, I should hardly think it is likely to be largely adopted when other forms of roof can be employed in which materials of a more durable description than felt and materials of a similar character can be used for an external covering. However this may be, the essential considerations will remain the same, and roof light and roof ventilation will present the same problems under both conditions.

Having decided upon a site and the type of plan adapted to it, I propose briefly to consider the general principles which should guide the architect in the development of his plan. It almost goes without saying that the raw material should enter at the one end of the machine and the finished product emerge from the other, or complete a circuit. If we regard our factory as the machine, the

same condition should apply, although the process is longer and more complicated than that of a single manufacturing process. The raw material may come along either as a purely raw material or partly manufactured; in either case it will need to be stored. This will involve the provision of a warehouse, which will naturally be placed against the railway sidings, and as the finished articles will be despatched by rail it will probably be convenient to combine the two warehouses, one for raw material and the other for finished goods, in one building. The next problem will be the transport from the sidings or the warehouse to the building in which the first process is to be performed. This will probably be done by trolleys on a track, a number of trolleys being pulled by an electric trolley. So far we have only dealt with processes common to all factories, and it is now that we shall have to consider the type of manufacture to be provided for. Before commencing to plan any factory it is essential an architect should study in an existing factory the process of manufacture, and take particulars of the sizes of the machines and the areas which will be required round them for convenient working, and the relation of the different processes to each other. Having made a machine-setting-out plan, it will then be possible to arrive at sizes and widths of bays, and proceed to a solution of the problem so far as the manufacture is concerned; examination, sorting and packing will follow, and accommodation for them will need consideration. From the packing room the parcels of finished goods will be conveyed by trolleys to the finished warehouse ready for despatch by rail.

So far our consideration has been confined to the process of manufacture, and our next problem will be the workers, and it is necessary to deal with their movements as carefully as with the raw material. The first point which presents itself is getting the worker in and out, at the same time providing some record of his coming and going. To get two or three thousand workpeople in and out of a factory without loss of time to the individual or his employer, and keep a record of the hour at which the worker arrives and departs, requires the exercise of some ingenuity. The old check system, in which each worker was provided with a metal check which he took from its place on a board when he entered the works and replaced when leaving, has been almost entirely superseded, at any rate in large works, by a system of clock registers. These record the hour of arrival and departure upon slips which are pushed into the machine and stamped much in the same way as the date is marked on a railway ticket, the slips being left in racks provided for them at the side of the clock, and while the employees are at work the necessary particulars are taken from the slips and entered in the books.

The next consideration will be the provision of cloakroom accommodation, and this is very important where women workers are employed. It is desirable that lockers with solid sides and expanded metal doors should be provided for each person so that the clothes do not hang against each other. There should be ample accommodation for changing clothes and boots and for the drying of wet clothes. Good ventilation is essential, and means should be adopted to prevent pilfering or theft. Adequate lavatory and other sanitary accommodation should be grouped with the cloakrooms, in a separate apartment if possible, and all under the supervision of a special attendant. It will be readily recognised that the time occupied in taking off cloaks and hats, and probably changing boots, may be considerable, and if this took place during the employer's time the loss to him would represent an appreciable sum of money each day. Assuming 1,000 workpeople took 10 minutes each per day in the process—i.e.,  $2\frac{1}{2}$  minutes at entering and leaving the works morning and evening and mid-day—10,000 minutes, or about 166 hours, would be lost to the employer daily. This can be avoided if the workpeople pass the clocks after leaving the cloakrooms, and now that the hours of labour are being reduced I think it will be found that the clocks will be placed in the workshops even more generally than they are at present.

Having got the workers into the building, it remains to consider what are the essentials in factory construction which will best contribute to their health and welfare and, as a direct result, to their efficiency as workers. As a general statement, I think it may be said that in the past, with comparatively few but notable exceptions, the manufacturer has not been alive to the importance of this sub-

ject, and as I have already remarked, it has needed a world-war to awaken him, and even this would probably not have been effectual without the energising influence of the Government at the instigations of Mr. Lloyd George. In September 1915 a committee was appointed by him as Minister of Munitions, with the concurrence of the Home Secretary, which was invited "To consider and advise on questions of industrial fatigue, hours of labour, and other matters affecting the personal health and physical efficiency of workers in munition factories and workshops." The appointment of this committee, of which Sir George Newman was chairman, was confirmed by subsequent Ministers of Munitions, and continued to sit until nearly the end of last year, when it issued a final report summarising the result of its enquiries and investigations. I do not think it would be possible to over-estimate the value of the report and the work done by this committee. Although primarily intended to deal with munition works and the exceptional conditions brought about by the war, signs are everywhere apparent, as a result of the activities of this committee, that manufacturers are realising more and more that the health of the worker is not a secondary consideration, but one of vital importance. "Without health there is no energy, without energy there is no output." I quote from one of the publications of the committee already referred to, which goes on to say: "More important than output is the vigour, strength and vitality of the nation. Nor is health only a physical condition. It is also mental and moral." With these statements before us as the considered opinion of a committee of experts who devoted so much time to the investigation of the problem, it would be difficult to exaggerate the importance of the welfare of the worker. As I shall be quoting freely from the various reports and publications of the Newman Committee, I should like to make my acknowledgments at once, and dispense with the need for further reference to them.

The essential conditions for maintaining the health of the worker may be summarised as—

Favourable conditions for the body itself, *i.e.*—food, air, exercise, cleanliness, warmth, etc.—and a satisfactory environment—*i.e.*, a sanitary factory and good housing accommodation.

Our concern for the moment being the factory, I propose to deal first with environment. The Factory and Workshops Act, 1901, states the essential requirements for a proper environment, but offers no suggestions for satisfying them, so I do not propose to quote it, as the general conclusions which have been arrived at cover the ground it traverses.

**LIGHT.**—Whether natural or artificial, the lighting of the factory should be adequate and as constant as possible. Roof lighting is generally considered preferable to lateral lighting, and a north light is thought to be the best. Where lateral lighting is necessary, the question of the height of rooms in relation to their width is an important one. Pulleys and belting are greatly obstructive to light. Light-coloured walls and white ceilings add much to the general brightness of a shop. Dirty windows or roof lights cause a great loss of daylight, and it is important to give facilities for easy cleaning from within as well as from without. It may safely be said that it is impossible to give too much light.

As regards artificial lighting, I do not propose to discuss the merits of gas as compared with electric light as an illuminant; each has its advocates, but there is no question that the use of the former makes the subject of ventilation more difficult. Common to the use of both is the importance of constancy and uniformity of illumination over the necessary area of work, and the arrangement of the lights so that the direct rays do not fall on the eyes of the worker or cast shadows on the work. Bad lighting results in damage to eyesight in addition to affecting output unfavourably. Electric lighting is very successfully done with  $\frac{1}{2}$ -watt electric lamps fixed at about 15 ft. centres. In addition, it is necessary to have independent lights where required.

**VENTILATION.**—In ventilating the factory, clean air as well as a stimulating atmosphere should be the aim in view, the essential requirements being freshness and movement. Cool air is more stimulating than warm, and dry air is preferable to damp. The proportions of carbonic acid in the air of a room are no longer regarded as the infallible test of the ventilation as they were about ten years



ago, and movement is now regarded as the chief essential. In this matter of ventilation the factory has passed through the same experience as the school building, and the same conclusions have been arrived at—viz., that a natural system is likely to prove the most efficient. However, like all other systems, it is necessary that it should really be in action, and this is only obtained when windows and other openings intended for the inlet or outlet of air are open. Not an easy matter to ensure, if the control is at the workers' discretion. There are, I believe, still a number of factories ventilated on the "Plenum" system, but one seldom meets an advocate of it, and I have heard of many cases where it has recently been taken out and a natural system substituted.

As a general summary of the ways and means of ventilation I cannot do better than quote *in extenso* the conclusions and recommendations of the Health of Munition Workers Committee as follows:—

"The ventilation and heating of every workshop provides a separate problem. There is no uniform or stereotyped method which will give satisfactory results everywhere. The essential requirement is current ventilation and cross ventilation. The means to be adopted must be subject to local conditions in each case, and the general lines alone can be indicated here.

"(a) *Cubic Capacity.* This is the first essential. Though the minimum of 250 cubic feet per worker (400 during any period of overtime) prescribed by S.3. (1) of the Factory Act is seldom infringed, the provision of adequate ventilation may be rendered difficult owing to the close proximity of the workers to one another.

"(b) Definite openings communicating with the outside air should be provided in every workshop, preferably opposite each other. The average machine shop and all similar one-storey shops may be provided with louvres along the length of the roof ridges, or better, with narrow openings where the roof meets the wall. Such louvres should be permanently open, and would generally ensure that the atmosphere will at least not be grossly bad.

"(c) Fixed openings should be supplemented by the use of doors and windows (which will open) and fans. Fans are specially valuable to meet emergencies and abnormal conditions and provide for the thorough movement of the air.

"(d) Local sources of impurity and heat production should be dealt with by the provision of hoods, exhausts, etc. Smoke and fumes from neighbouring chimneys may also have to be guarded against.

"A close connection exists between ventilation and temperature. What is the best temperature depends on the character of the work and the habit of the worker. Sedentary workers require a temperature as high as 60° Fahrenheit, though it may be somewhat higher when the air is in motion.

"Means of heating are usually restricted by practical considerations to some system of steam heating or hot-water pipes; the ideal form is no doubt by radiant heat, as may be seen from the excellent and invigorating conditions which prevail in many smithies and forges. Gas-heated radiators in which the burnt gas escapes into the shop are not permissible.

"Some responsible person should be specially detailed to supervise the ventilation and heating. The most complete installation for ventilation and heating—that is, the means—may be rendered ineffective by injudicious management or failure in proper or continuous maintenance. Rapid changes of temperature at different times of the day, varying circumstances of use and occupation, all require appropriate treatment. Mismanagement may arise through neglect to observe the prevailing conditions and to put in operation the appropriate appliance for the supply of air and heat. While it is for the management to provide the means, it is for the workers to aid in their use and application."

In commenting upon the above suggestions, it may be said that the general tendency in England is to under-heat rather than over-heat workshops. For high efficiency shops should be capable of being over-heated, so that on cold wintry mornings the workpeople will feel much more ready to commence work at once than if the shop is partly heated.

Cleanliness in the factory is essential not only for health but because of its bearing upon the self-respect of the worker, and it is desirable that floors should be of such a character that they can be washed down when necessary. They should thus be made of some smooth, hard, durable and impervious material as required under the Factory Act. A floor of this character, however, is not the most suitable for workers to stand upon, and consequently footboards for workers at machines should be provided.

Although the Factory Act and the regulations of the Home Office contain no regulations with regard to the provision of washing facilities, except where workers are engaged on processes in which poisonous materials are manipulated, there is a general agreement that facilities should be provided wherever possible. In the provision of lavatories there are one or two important details which should be borne in mind. Sufficient provision must be made for draining the floor, which should be smooth, hard and impervious, and properly graded and sloped. Any walls against which basins are placed should be faced with impervious and easily cleaned material. The sanitary fittings should be very strong and durable and free from loose parts such as plugs and chains, and be adequately secured either to the walls or stands and have a good supply of hot and cold water. Waste pipes of a sufficient size are essential, and fewer stoppages are likely to occur if they discharge on to open floor channels at frequent intervals and avoid long runs of horizontal pipe. Washing troughs are regarded as preferable to separate basins.

Desirable as it is, no general provision of baths for workers has yet been achieved except in cases where the nature of the employment makes it compulsory under Home Office Regulations. In large factory communities, such as Port Sunlight, the problem is dealt with by the provision of bathing establishments, and although in some factories one or two baths have been provided, largely as an experiment, I have not heard of any ordinary factory being supplied with really adequate bathing facilities.

Drinking water should always be available, and is regarded as so essential that under the Police, Factories, &c. (Miscellaneous Provisions) Act, 1916, there is an order to the effect that provision shall be made at suitable points for an adequate supply of wholesome drinking water from a public main or other approved source, and at each point of supply it shall be clearly marked "Drinking Water." The provision of upward jets from which the workers can drink dispenses with the necessity for taps and cups.

Of equal, if not greater importance than healthy working conditions, is the subject of housing, and though this does not come within the scope of my paper, I think it will be agreed that if Government control does as much for the workers in their houses as it has done for them in the factory during the past four years we may look forward to seeing them adequately housed.

For the maintenance of industrial efficiency the worker must be adequately fed. The importance of this fact had already been realised in many factories before the war, but the *extreme* importance of this point was only realised under the conditions of high pressure which prevailed in factories engaged upon the manufacture of munitions of war. The result was that canteens have been erected throughout the country, and it is probably in this branch of the work of the Welfare and Health section of the Ministry of Munitions that more tangible, although not more valuable evidence is displayed than in any other. To the architect it has proved of importance, as he has been concerned to some extent in its development. Apart from the recognition of the necessity for such provision, the great incentive in controlled factories to induce manufacturers to make the necessary provision for canteens and welfare work generally was the arrangement sanctioned by the Government under which the cost of the provision of canteen and certain other welfare work might be regarded as an expense chargeable upon Excess Profits Duty. Contingent upon this arrangement was the proviso that proposals for the provision of canteens must be submitted before the work is begun to the Secretary, Canteen Committee, Central Control Board (Liquor Traffic). In addition to the inducement just mentioned under

the Police, Factories, &c. (Miscellaneous Provisions) Act, 1916, the Home Secretary is empowered to issue orders requiring the occupier of a factory or workshop to make reasonable provision for preparing or heating or taking meals for workers employed therein.

The outcome of all this was the issue of a pamphlet by the Health of the Munition Workers Committee, a very useful document, stating the general principles which should regulate the planning of canteens. From personal experience I can testify to the adequacy of the conditions laid down and the suggestions made in this pamphlet, and I cannot do better than summarise them.

The site should be in a central position, easy of access to all parts of the works. No objection, however, was raised to placing the canteen outside the works altogether if no suitable site was available within the factory precincts. As a matter of fact, the best position for a canteen would be on the boundary of the works, so that it could be entered from within or from without the factory. If placed outside the building can then be used for concerts, etc., after working hours. The building should include a dining-room, kitchen, scullery, larder stores, catering office and sanitary accommodation. The stores should open upon a yard, with easy access for tradesmen's carts, etc. The system of service would be from a counter, therefore the kitchen and scullery should abut directly upon the dining-room. Eight and a half square feet per person seated is suggested as the allowance in the dining-rooms. Separate dining-rooms for the two sexes are advocated, and it is suggested that they should be so designed that they can be thrown together to form a single hall for social or educational purposes.

As regards the medium for cooking in small canteens, gas is suggested as the most efficient; in larger ones steam and electricity is recommended. For washing up teak sinks are considered more suitable than earthenware for cleaning crockery, but earthenware or galvanised iron sinks are advised for the preparation of vegetables. Attention is drawn to the fact that there will be a percentage of the users of a canteen who require "warming up" facilities, and it will be necessary to provide warming closets or hot plates. Certain details of cooking apparatus are given, but it is very wisely suggested that cooking apparatus manufacturers should be asked to submit schemes and recommendations.

It was suggested that the building should not be like a barrack, but should have an agreeable and attractive appearance. This was not quite consistent with the recommendations as to construction and cost, which was considered should be about 5d. per foot cube, exclusive of central heating and lighting, or, taking a canteen seating 500 as an example, the total cost, including building and equipment, should be about £7 per seat. Many canteens were erected at these prices two years ago, but I doubt whether from an architect's point of view they quite adequately fulfilled the requirements with regard to appearance. Latterly, of course, it has not been possible to erect at anything like the price mentioned per foot cube or per head, owing to the continued rise in prices. My experience has been that the Canteen Committee always gave careful consideration to any scheme submitted to them and showed their willingness to encourage wherever possible any proposals which made for the improvement of the building from an architectural point of view, and in this connection it was very gratifying to find factory proprietors anxious to put up a really worthy building, even to the extent of making up the difference in cost out of their own funds.

Interesting as it is, time will not permit of any detailed reference to the administration of a canteen except in so far as it influences the plan, which in one or two particulars it certainly does. Quick service is essential. The customers are not waited upon at the tables (except under special circumstances), but go to the counter for what they require, taking it themselves to the tables. The method of payment is usually by ticket, or disc, which the customer buys at the ticket office when he enters the canteen, to the value of food required, and gives in exchange when he is served. The relation of this ticket office to the entrance and the counter is of considerable importance, and should be so arranged that there is no interruption to the flow of traffic.

In the majority of factories some provision is made for the treatment of injuries, but inspection shows that there is need for improvements, especially in treating minor injuries. No factory of any size can be regarded as well equipped unless it possesses a surgery with a trained nurse in charge. This should be specially designed for the purpose, and should comprise a surgery, rest room, store and nurses' room. In factories where both sexes are employed a second room is desirable. Without going into details, it will be sufficient to say that the general construction and finish should be such as usually appertain to hospital construction. In large factories a surgery of this kind, however centrally placed, cannot be equally accessible to all parts of the works, and it is considered advisable (and in certain types of factory demanded under an order of the Home Office) to maintain first-aid boxes in the workshops, which may take the form of a cupboard containing first-aid materials. Such a provision will enable a workman who sustains a slight injury while at work to have it dressed without losing the time required to go to the surgery.

Apart from the treatment of injuries is the question of sickness and ill-health, the importance of which is greatly increased owing to the widespread introduction of women into industry. Sickness, whether due directly or indirectly to the industrial occupation, is harmful both to industrial efficiency and output. This had been recognised before the conditions prevailing during the war brought it home with so much force, with the result that there has been an increasing tendency to appoint welfare supervisors, whose functions are to keep records of individual workers, investigate cases of lost time, sickness, low output, incapacity, working conditions, home visiting, feeding arrangements, training and instruction, housing, transit and recreation.

In the early stages of this movement it was chiefly the woman worker who was looked after, but the Committee sitting in January 1916 recommended the appointment of welfare supervisors wherever 100 boys are employed, it being recognised that the demoralising influences, such as high wages, restlessness, lack of control, which had become accentuated by the war, were in special need of control. I have had an opportunity on one or two occasions of discussing this question with directors of large factories, and I was very much impressed with the view they took of the importance of the subject and its probable effect upon the relations of the employer and employed in the future. The plans they are making go very much further in their provision for the welfare and education of the boys than has yet been required or suggested. Of extreme importance to all, but especially to boys, is the question of recreation, a fact which has been recognised by many large employers of labour by the provision of playing fields and parks in connection with their works, a movement which is rapidly gaining ground, and I think we may look forward to the time when every works of any size will be provided with its own playing field, gymnasium and baths.

It was inevitable that my remarks must largely deal with conditions brought about by the war, as no factory has been erected during the past four years except for purposes connected with the prosecution of the war. But although we look back with sadness while remembering the losses suffered and the sacrifices demanded by the war, it will be a great consolation to us to recognise the good which may result from it all in improved working conditions and really adequate housing for those—the workers—who have done so much, either on the field of battle or in the workshop, to secure the victory which has been won. I said *may* result, and in this connection I cannot do better than quote from the summary of conclusions of the Newman Report:—

“While there can be no doubt that since the appointment of the Committee in September 1915, the issue of their memoranda, the action of the Central Departments concerned, and the trend of opinion amongst employers, workers, and the public generally have combined to secure a very substantial improvement in the conditions of employment, it would be a very grave mistake to assume that all is now well, or that further care and attention are not still essential if a serious breakdown of industry is to be avoided. Further, while the Committee have of necessity been primarily concerned with the health and physical efficiency of the munition worker under the abnormal conditions created



by the war, they are strongly of opinion that the principles underlying right action at the present time are permanent and not merely transitory in importance, and should be accepted also as fundamental to all schemes for industrial health and betterment after the war. One of the vital and pressing problems before the country at the present moment and in the immediate future is the question of the health and contentment, the capacity, status, and efficiency of the industrial worker, whose contribution to the commonwealth is of ever-growing importance."

To any who may have come here to-night in the hope of hearing something new or particularly enlightening upon the subject I have dealt with I feel I must offer my apologies. I have only attempted, and I fear rather imperfectly, given a review of what has been done and of what may be regarded as the essential requirements in building modern factories.

### DISCUSSION OF THE FOREGOING PAPER.

MR. GEORGE HUBBARD, F.S.A., in the Chair.

MR. MAX CLARKE [F.]: I have listened with great interest to Mr. Buckland's remarks, and particularly to what he said as to the rate at which he succeeded in carrying out the order. Personally, the one difficulty which I have had in factory building during the war has been that the gentleman who wanted the factory usually wanted it the day before he saw me and wished it completed about the day after I saw him. There is one problem Mr. Buckland did not touch on, and that is drainage. I came across a site which presented the greatest possible difficulties. It was quite a small site, practically flat, and the drains surrounding it were comparatively shallow. The next problem I encountered, and that also Mr. Buckland has not mentioned, was an adequate water supply for purposes of fire protection. We were a few thousand yards away from what was not a large supply, and even up to the present time it has not been decided what is to be done, because to get a supply to the works sufficient for an installation would cost a considerable sum of money. Mr. Buckland, too, did not tell us how he covered the Belfast roof-trusses. Of course, felt, ruberoid, Anderson's "Roc" are all available, but, in the London areas, their use is more or less discountenanced. I want to hear the result of covering a Belfast roof with some sort of asbestos, such as "Poilite," and whether it can be successfully bent. That is my difficulty at the present moment, and one on which I have been unable to make up my mind. I feel very interested in what Mr. Buckland has told us about the protection from the sun which a 30-foot wall gives. I had not heard that before, and, of course, it is only in this way one collects information. The skylights of my roofs were covered with a material which, it was said, would keep out the sun, but the stuff was washed off after half-a-dozen showers, so that the money was spent in vain. With regard to the 250 cubic feet of air space per worker, may I ask Mr. Buckland whether it applies equally for a shop which is 12 feet to the

eaves and one which is 30 feet? That would make a considerable difference. I built a bakery, and put up two very large openings, filled with movable louvres, which could be opened and closed. It was for baking biscuits for war purposes, and at about my second visit to see the bakery in full operation I found the large openings had been entirely covered with sacks. I said to the foreman, "What is the meaning of this?" "Oh," he replied, "the hands refuse to work if the louvres are open, and they say the air gets down between the louvres even when they are closed; that is too much air for them!" Has Mr. Buckland had any experience with tar slag, or with Tarmac for floors? I had better not tell my experience with that, but I should like to know whether his experience agrees or disagrees with mine. Mr. Buckland mentioned washing-troughs. I should absolutely decline to allow a washing-trough in any place I built could I possibly avoid it, if I understand it to be a receptacle in which more than one man washes in the same water, for that I consider to be most objectionable. Still, I do not think he could have meant that. One thing I have not been able to find out, and the remarks of Mr. Buckland emphasised my difficulty. He said the Government, or a department of the Government, told factory owners that they were to provide a place for "preparing" food. Does that mean that the employer is under any liability to provide it? I have myself provided a place for preparing the food, but the workman says he wants it not only prepared but provided. In that connection I may tell you of an incident which occurred in the borough with which I have much to do. I have to deal with what is called a kitchen—national, or communal, or Borough Council—and it is in full going order. I am also, unfortunately, a member of the Food Committee, and in that capacity I and some others had the pleasure of interviewing a lady in uniform who came from the Government. She told us that in Bloomsbury they had a very large factory—

large for the neighbourhood—employing about 800 hands, and she required a kitchen built in its immediate proximity. She wanted this kitchen to be built at once. “Oh,” I said, “when the Government come to deal with a private individual they require him to provide a place where the workers can at least cook and warm their food and eat it. Don’t you think the Government ought to do the same thing with their factory? Our national kitchen is only ten minutes’ walk from this factory of yours, and you say it is too far for them to go—that it would take up too much time. If you think so, you had better provide your own kitchen.” The lady went away. Within ten minutes we had a similar communication from a gentleman coming from the British Museum, and we were unable to provide one for him. These are instances of what the Government do in regard to other people. They ask factory owners to provide kitchens or means for the people to take their meals, but do not themselves make such provision. I should like to ask whether Mr. Buckland has had experience of both the sexes dining together in the factory canteen? Does he think it desirable to provide separate dining rooms? I am building a canteen at present in which I have arranged—rightly or wrongly—that the men should be in one room and the women in another. But that, I realise, militates against the suggestion that where a large common dining room is provided it can be used as a concert hall. It was at Hendon, I think, I saw a dining room intended to have one common room for both sexes. My rooms are each about 80 by 50 feet, and can seat about 400 people each. I do not know whether I quite grasp Mr. Buckland’s idea of Government cost. I understood from what he said that the Government cost was about 5½d. a foot cube for the carcass of the building. It did not include lighting or heating or any fittings such as those in the kitchen, nor did it include eating utensils for the workpeople. For 800 people that cost might be £5,600. That is the basis now suggested by the Government. I think lighting is about 8s., and the utensils about 30s., and heating about 10s. I came here more especially to get some information about the rest-rooms. I have advocated strongly that there should be a surgery, a small dispensary apart from the surgery, a matron’s room, and a rest-room for each sex, with separate lavatory accommodation. I should like to know whether that is considered too much or too little. I may say that I have recently built a sanatorium for dogs, and there I have provided a rest-room, a surgery and dispensary, and a place where the dog can have a bath, and I mention it because if that can be done for dogs it certainly ought to be done for human beings. I have not provided first-aid boxes, but I shall certainly do so. One thing to which I object in all this war work is the speed at which it is required to be done. Everyone tells me about the factory which they built in no time. One week it was a field and the following week ferro-concrete columns were grow-

ing up everywhere. A week after that the roof was on, and a fortnight later people were at work in the factory. All work done in that way is essentially bad, and I have had the unfortunate experience of having something to do with a war factory which was built at this rate. It is now tumbling down. Of course, the solicitors, the arbitration people, and the failures all follow, and the reputation of the architect is not improved by it. I think architects ought to make a bargain with their clients that when required to do things at such speed the client should bear the responsibility. You cannot have it every way. You cannot have your millions of cartridges or your hundreds of aeroplanes, or whatever it may be, and have a very satisfactory factory as well. I quite realise that many of these structures are of mushroom growth, and when peace is signed they will disappear. It is much better for the country that they should. On the other hand, many factories have been erected as permanent buildings, to carry on competition with, we hope, those abominations with whom we have been at war, and we do not expect to see those factories fall down, or even deteriorate much. I have done a considerable amount of factory work—for my sins—and I have been a good deal grumbled at by my clients, who call one set of factories “Max Clarke fortresses.” I have been abused, yet they go up all the same. In 1917 a large bomb dropped within 4 feet of one of these factories, and made a hole in the ground 7 feet deep. It was not stigmatised as a “fortress” then—at any rate I was not abused, for the building was not seriously damaged. There were 1,870 squares of glass broken in it, but that was nothing, though had the building been seriously damaged it would have made a great difference to my client’s pocket.

Mr. D. B. NIVEN [F.]: I have great pleasure in seconding the vote of thanks to Mr. Buckland for his most interesting paper. Architects have had many strange things to do during the war, and to many of them factory construction was something new. During the years of war I have had something to do with this subject myself, having, like Mr. Buckland, been entrusted with the design of one of the new cartridge factories for the Government, and, like Mr. Buckland, I have found the work full of interest, and feel that if architects generally would throw their hearts into such work they would find it worth the while. On one occasion at the Ministry I asked one of the chiefs why it was that so few architects were being employed in designing these factories, and was told that if I could see the scrappy and indefinite plans submitted to them by certain architects I would not be surprised at their attitude. I am therefore all the more pleased to find that Mr. Buckland is an architect who is not above giving full study to such problems, and we have learned much from his descriptions of what he has done. During the war workpeople have become accustomed to a certain amount of welfare supervision and to comforts provided for them in factories.

Before the war certain manufacturers whose names are household words—Lord Leverhulme, the Rowntrees, and others—were pioneers in providing such amenities, but now through Government initiative much more attention has been given to these matters, and this lead is not likely to be departed from. Employers who have not provided such conveniences are bound to do so in the future. Already workpeople differentiate between the factory where their welfare is considered and that where no such consideration is given. In America they have to contend with many of the problems we have to deal with here. There they have their own housing problems, and at present have instituted a competition on novel lines. Instead of asking merely for designs for houses, they require competitors to plan the houses in relation to a factory establishment, and the competitors are asked to write a thesis showing an understanding of the whole communal relationship between masters and men. They are required to explain the location selected for the factory in relation to railways, roads and waterways, and to consider the supply of electricity, gas and water, and to describe an adequate provision for open spaces, playing fields, rest-rooms and canteens in connection with the factory itself as well as the proper provision of housing for the workpeople in relation to the factory unit. This competition is not yet decided, but in America they are expecting great things from it. I see Mr. Buckland adopted the Belfast system for his factory roofs. In my own case I was asked to consider this method, but found that it was possible to adopt a permanent north light construction with slate and boarded roofs, steel stanchions, and wood principals at a cost of only 5 per cent. more than for the temporary Belfast roof system. This was adopted, and there has been no reason to regret it. Mr. Buckland also spoke of iron gutters with pockets cast on them to carry the roof principals. I should have feared that with this construction vibration would have caused trouble from the joints opening and leaking. In our case we found that asphalt gutters hundreds of feet long were eminently satisfactory. These can be laid dead flat, open at either end, and their actual water-carrying capacity is very useful in easing the outflow to the drains in the event of a sudden deluge. But the drains from such great roof areas have to be carefully calculated, especially on flat, low-lying land where such factories are usually built, otherwise trouble may be expected.

Mr. BUCKLAND, in reply: I am very much obliged to both the proposer and seconder for their remarks, and to all present for according the vote of thanks. I feel that my paper has been a very inadequate one. One has had, of necessity, to generalise, and naturally that is not so interesting as particularising. With regard to drainage and water supply, on this particular site we had a big area to drain, but fortunately the main sewer was deep enough to take the foul water, and we formed a big tank underground

in which the rain water was collected for us in the various manufacturing processes. As regards covering for the roofs, these roofs were covered with boarding and two layers of "ruberoid." In view of the temporary character of the building it was at first suggested by the Director of Factory Construction that a single layer would be sufficient, but realising the extremely tender character of the material we strongly urged the employment of two layers. I do not think anyone would employ "ruberoid" for permanent building. As to what Mr. Niven said about the saw-tooth roofing upon the Government factory erected by him, he was evidently in a more fortunate position than we were in being able to get the necessary supply of steel, we being assured that none was available. "Tarmac" I do not like at all inside shops, and in my opinion it is only fairly satisfactory for outside work, as it gets soft in hot weather and will not stand wheeled traffic very well. In this factory the machines threw out a lot of oil and grease and we used wood-block flooring. We started with maple, but the supplies did not hold out, and as at that time much walnut was on the market as wastage in the manufacture of rifle butts this was used, and proved an excellent substitute. The washing-troughs were not intended to be filled at all, being supplied with turn-round taps, and each worker washed from the taps as the water ran from them. With regard to a place for preparing food, the Home Secretary is empowered to issue orders requiring the occupier of a factory or workshop to make reasonable provision for preparing or heating meals for the employees.

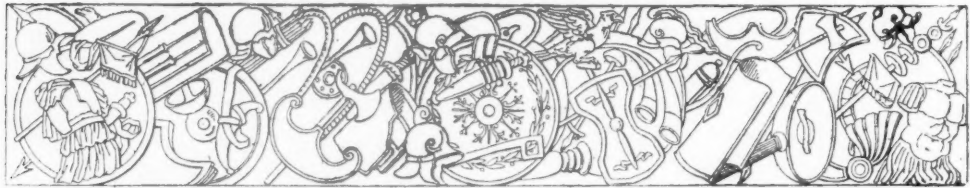
A LADY: It does not include providing food.

Mr. MAX CLARKE: This lady is in the Government employ, and she says it does not include providing food.

Mr. BUCKLAND: I have not come across a dining room common to both sexes, though it may be that there are such. I am sorry to say I did not include the question of rest-rooms in my Paper. I thought of that point, and intended to embody it. What is most hopeful is the fact that manufacturers should realise what an advantage it is to have rest-rooms. It is so much more valuable if one can get a voluntary realisation of that fact instead of being forced to it by legislation. Upon the question of gutters, I have used asphalt and found it quite satisfactory. In the factory illustrated the ruberoid was worked to form a big gutter between the Belfast roofs. The works engineers to whom I referred worked the saw-toothed roof in a very ingenious way. The cast-iron gutters formed the girder. On it were cast sockets at 6 feet intervals, and these received the blades of the roof, upon which rested the boarding covered with asbestos slating. It formed a very cheap roof. I was much interested in Mr. Niven's remarks, because I knew he was putting up a similar factory to the one I have been describing and illustrating. I agree with what he says about architects

who never did factory work before the war, but have done it since. I had done very little such work before the war, except alterations to existing factories. I think it extremely important that architects should realise that a factory is a thing well worth doing; it exercises one's planning faculties to an enormous extent. And if manufacturers, on their part, only realised what an architect can do for them in planning a factory in which the work could be carried on better and more expeditiously they would more often employ an architect. In alterations to existing factories the architect, as soon as he gets on the job,

finds in many cases what deplorable places they are from the working point of view. One finds large firms carrying on their work in factories erected nearly a hundred years ago, which have been extended from time to time without a proper regard to future developments, the result being that each addition, instead of adding to the general convenience of working, has detracted from it. One of the prime functions of the architect is, as we know, to attend to the lay-out and co-ordination of everything, and if manufacturers would realise this they would find it greatly to their advantage.



## CORRESPONDENCE.

### "Good Work Certificates" for Builders and Workmen.

*King's Lynn, April 24th. 1919.*

*To the Editor, JOURNAL R.I.B.A.—*

SIR,—What an incentive would be given to the builders in this country if the suggestion made by Mr. S. B. Caulfield, which was printed on page 107 of your JOURNAL for March, could be acted upon. This very thoughtful and novel suggestion was—"Could the R.I.B.A. found an association for tradesmen, to be nominated by a number of architects under whom they had worked?"

If one of the Institute architects was pleased with the way a builder had carried out his ideas, it should not be a very difficult matter for the architect to call in two of the members of the Institute to verify that the Institute's certificate was worthily earned by the builder. There would be keen competition amongst builders to hold these certificates, for they would form a visible standard of quality, which no builder at present can possess or attain. All builders would desire this recommendation and proof of their reliability, and it would be an incentive to them to put the best materials and labour into all their constructional work.

I have personally known over one thousand builders. Some of the most thoughtful and conscientious have deplored the fact that their work is not recognised, except by a monetary payment, and I am sure these men have taken as much interest in their work as

the architect himself. I have known builders who have pulled down and rebuilt work because it has not been satisfactory to themselves, who have voluntarily put themselves to considerable loss because the work and materials have not been to their satisfaction, and have altogether been quixotically conscientious. I have been in both professional and business men's homes where I have seen framed certificates placed upon the walls for much less worthy objects than the conscientious carrying out of an architect's plan, and I am sure that the proposed certificates would produce a higher quality of work of some builders. It would certainly be a great assistance to the architects of the Institute, inasmuch as builders would not only endeavour to obtain contracts under members of the Institute, but it would be an incentive to give the greatest satisfaction.

Further, I do not see why artisans themselves should not obtain a similar certificate, for when a joiner, bricklayer, plumber or mason has done some difficult or intricate work, it would certainly give that impetus to craftsmanship which nearly all architects are agreed is sadly wanting. It might be truly argued that the certificates to the working man will produce jealousy amongst those of his fellow-workmen who are cross grained, but my experience is that the man who has the brain to rise above his fellow-men in the way he executes his work is certainly proof against any petty jealousy. The majority of workmen will be proud that one of their number possesses the certificate of such a world-famous Institute.—Yours faithfully,

J. H. KERNER-GREENWOOD.



## TERESIO RIVOIRA, ARCHÆOLOGIST.

The cause of archaeological research has suffered a great loss in the death of Commendatore Teresio Rivoira, which occurred at Rome on 3rd March. Rivoira was perhaps best known to English students by his volumes on "*Le Origini della Architettura Lombarda*," translated into English by Mr. G. McN. Rushworth in 1910. The original Italian editions were presented to the Institute Library by their author on their publication. At the time of his death he had completed the MS. of an important work on Roman architecture, and it was in connection with his researches on this subject that he last visited the Institute Library in 1917, to examine certain of Palladio's drawings of the Roman Baths. Mrs. Arthur Strong, Assistant Director of the British School at Rome, pays a fine tribute to Rivoira in a communication to *The Times*, appearing in the Literary Supplement for 27th March, and it is from this source that the following extracts are taken:—

Rivoira's name will always be associated with the revival of interest in Rome and the Empire which is perhaps the most significant fact in the history of archaeology during the last quarter of a century. He early applied himself to the study of Roman architecture and of its developments—a task for which he was admirably equipped through being, like his friend, Giacomo Boni, possessed of a sound practical knowledge of construction. His first great work on Lombardic art, its origin and ramifications, was much more than a mere study of the Lombardic, or Comacine, style; in it Rivoira penetrated to the hidden source of all Western architecture, and, boldly inverting the judgment alike of modern historians and critics, established what was to become his central thesis—that the influence, namely, which moulded mediæval architecture in Europe originated neither in Byzantium nor in the Hellenic East, but in Italy, with Rome as radiating centre. The two most significant results of these investigations were, in the first place, that the Church of the Holy Wisdom at Byzantium could be traced back to the *Thermae* of Ancient Rome, and secondly that Lombard influences carried beyond the Alps by Benedictine monks were responsible for those northern developments of Romanesque which others had attributed to an Eastern origin. These theories, even if they did not win universal acceptance, gave Rivoira a European reputation and a permanent place among the champions of Rome in the fierce discussion as to the priority of Eastern or Roman influences in the formation of the architectural style of Mediæval Europe; and it is largely due to his labours that the balance of opinion is no longer as strongly in favour of the East as when Strzygowski sent out his first challenge, and raised his famous war cry of *Orient oder Rom*.

After mentioning Rivoira's second work, "*Architettura Musulmana*" (1914), Mrs. Strong, in speaking of his happily completed study of Roman architecture, says that this will deal with its development from the earliest days of Ancient Rome down to the seventeenth century, for he justly regarded the Italian architecture of the *Seicento* as one of the greatest that the world has known. The last time he came to our library, little over a month ago, he said to me, "I am putting into this book everything I know," unconsciously bestowing by these simple words the highest praise upon his work, for his

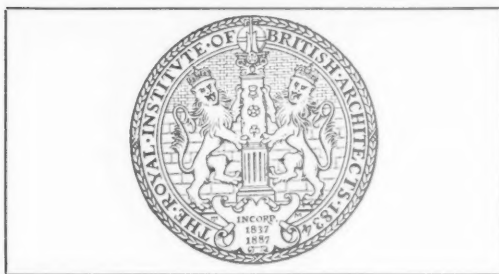
learning was indeed as vast as his thought was profound. He was not only a great archaeologist but a considerable historian, and a scholar commanding an exhaustive knowledge of chronicles and manuscripts, of coins, drawings, and prints, and of whatever might contribute to illustrate and confirm his theories. Above all, he was an indefatigable traveller, and shrank from describing, as so many do, what was known to him only at second hand.

Like his larger works, his numerous monographs were devoted to proving the originality and fruitful influences of Roman architectural forms. In one of his latest communications to the *Accademia Pontificia*, for instance, he showed that the much discussed Church of the Holy Sepulchre at Jerusalem was simply the compound of a round imperial mausoleum (such as Santa Costanza) and of a Roman basilican church of ordinary Constantinian type; and he pointed out once more the futility of attributing to the East every form of Christian architecture simply because the East was the cradle of Christianity. . . .

Rivoira married an English lady who shared all his interests and was the companion of his arduous travels: at their charming flat in the Via Cavour English scholars and students were always certain of a welcome and of meeting, besides their genial hosts, what was best in the intellectual society of Rome.

**Captain Philip Dennis Bennett [A.], Grissell Gold Medalist, 1914**, whose death from influenza occurred on the 24th February, was the only son of Mr. and Mrs. Archibald S. Bennett, of Edgbaston. He received a commission in the 5th Royal Warwickshire Regiment in 1910, and on the outbreak of the war volunteered with the regiment for foreign service, and went with it to France in March 1915. He was invalided in January 1916, and since recovery, and until a few weeks ago, when he was released, had been serving with the Reserve Battalion. Captain Bennett, who was a grandson of the late John Henry Chamberlain, was the first student of the Birmingham School of Architecture, and served his articles with Messrs. H. T. Buckland and E. Heywood-Farmer, of Birmingham. He was elected Associate in March 1914, and in January of that year was awarded the Grissell Prize and Gold Medal.

**Town Planning in New Zealand.**—Particulars are to hand of the Town-Planning Conference to be held this month in Wellington, N.Z., under the direction of the Department of Internal Affairs. Mr. S. Hurst Seager [F.] is acting as Hon. Organising Director. Town development in the Dominion still suffers from the lack of proper legislation, and the first subject before the Conference will be a paper on the need for an efficient Town-Planning Act. The means of securing permanent organisations for town-planning education and advancement will also be discussed. It is aptly pointed out in the official circular that the thousands of soldiers returning home, who have seen something of the beauties of England and France, will not be content to settle down "in the scattered shacks and inconvenient cottages which have done duty as 'homes,' and the ugly collections of disfigured stores and buildings which have done duty as 'villages.'" The exhibition in connection with the Conference is intended to be illustrative of every branch of town-planning activity, and exhibits will be drawn from all parts of the Dominion. Competitions on town-planning subjects are also to be held, and these will include designs for a garden city, a garden suburb, civic improvement, workers' homes, and photographs of civic beauty contrasted with civic ugliness.



9 CONDUIT STREET, LONDON, W., 10th May 1919.

### CHRONICLE.

#### The R.I.B.A. Record of Honour: Sixty-first List.

##### *Fallen in the War.*

DOE, EDGAR HERBERT, Private, Royal Berks. Regt. [*Probationer*], son of Mr. Herbert W. Doe [*A.*], died on 1st October, 1918, of wounds received in action in France.

TAYLOR, MARTIN BARTLEY, Private, — [*Student*]. Killed in action in Palestine.

##### *Military Honours.*

CARNELLEY, Capt. HERBERT, M.C., R.E. [*Associate*]. Awarded the Military Cross October 1918.

SCOTT, THEODORE GILBERT, 2nd Lt., Norfolk Regt. Awarded the Military Cross (*London Gazette*, 26th July 1918).

#### Knighthood for a Past President R.I.B.A.

At the distribution of New Year's Honours announced last week the distinction of Knighthood was conferred upon Mr. Reginald Blomfield, R.A., *Royal Gold Medallist, Past President R.I.B.A.*

#### Prizes and Studentships, 1920.

The competitions for the Prizes and Studentships in the gift of the Royal Institute, which have been in abeyance during the war, have now been revived, and copies of the pamphlet giving full particulars may be obtained from the Institute, price sixpence. Candidates who under the age limit were eligible in 1915 are eligible for the Competitions for 1920. This concession applies to all Candidates irrespective of military service. For the current year the value of the following Prizes and Studentships involving travel has been increased by 50 per cent.:—Soane Medallion, Pugin Travelling Studentship, Godwin Bursary and Wimperis Bequest, Owen Jones Travelling Studentship, Tite Prize, Henry Saxon Snell Prize.

THE ESSAY MEDAL AND TWENTY-FIVE GUINEAS, open to British subjects under the age of forty years, will be awarded for the best Essay on a subject of architectural interest, which may be chosen by each competitor for himself. Competitors are expected to make a useful contribution to knowledge by accurate research, so that the Essays can be accepted as authoritative statements on the subjects dealt with. Candidates in the Final Examination competing for this Prize may submit their Essay as the thesis required under Division (F) of the Programme [see *CALENDAR*, p. 430].

THE MEASURED DRAWINGS MEDAL AND TWENTY-FIVE GUINEAS, open to British subjects under the age of thirty years, will be awarded for the best Measured Drawings made by the competitor of any important building—Classical or Mediæval—either in the United Kingdom or abroad. Candidates may apply to the Records Committee for guidance and direction as to subjects.

THE SOANE MEDALLION AND £150, open to British subjects under the age of thirty years, will be awarded for the best Design for a Bridge over a River, with covered Footways. The design is to include the laying-out of the approaches and the treatment of the space between the bridge and an important public building which closes the vista on the north side at a distance of 1,000 feet from the centre of the bridge. Provision must be made for embankment and roadways on both sides of the river. The winner of the Medallion has to study abroad for at least six months, and must furnish satisfactory evidence of his studies in the form of measured drawings and sketches.

THE PUGIN STUDENTSHIP (SILVER MEDAL AND £60), open to members of the Profession (of all countries) between the ages of eighteen and twenty-five years, and intended for the study of the Mediæval Architecture of Great Britain and Ireland, will be awarded to the competitor who submits the best selection of drawings and testimonials. Special value is attached to perspective sketches done on the spot of an explanatory rather than a pictorial nature, and to measured drawings. The winner of the Prize has to devote a tour of not less than eight weeks to the study of mediæval architecture in the United Kingdom, and to furnish the Council with an illustrated paper descriptive of his tour, together with his measured drawings, sketches, &c.

THE GODWIN BURSARY (supplemented by the Wimperis Bequest): A SILVER MEDAL AND £97 10s., intended for the study of Modern Architecture Abroad, and open to British subjects without limitation as to age, will be awarded for the best selection of practical working drawings (the competitor's own work), or other evidence of special practical knowledge, and testimonials. The winner is required to spend at least five weeks abroad in the investigation of modern planning and modes of construction, drainage, water supply, ventilation, and other sanitary arrangements, and must, before the 31st December 1915, deliver to the Council an illustrated descriptive report of his researches. He may confine his inquiries and report to one building only if of sufficient importance.

THE OWEN JONES STUDENTSHIP (CERTIFICATE AND £150), founded for the encouragement of the study of architecture, more particularly in respect to Ornament and Coloured Decoration, and open to members of the profession under the age of thirty-five years. Candidates must submit testimonials, with drawings, some of which must be from existing buildings and from other examples, exhibiting their acquaintance with colour decoration and with the leading subjects treated of in Owen Jones's *Grammar of Ornament*, together with an original architectural design treated in colour decoration. The winner has to devote a tour of at least six months' duration to the improvement and cultivation of his knowledge of the successful application of colour as a means of architectural expression, and during his tour must prepare a drawing of a subject in coloured decoration for presentation to the Institute, the subject to be specified beforehand by the Council from the itinerary of his tour; if a particular subject be not prescribed, the Council reserve to themselves the right to select any drawing from among the studies made during his tour.

THE TITE PRIZE (CERTIFICATE AND £45), open to British subjects under the age of thirty years, will be awarded for the best Design for an Open Loggia, with Library over, in the Italian style, according to the methods of Palladio, Vignola, Wren, or Chambers. The Loggia is to be 150 feet long by 35 feet wide, open to a garden on the south, and with windows, &c., if desired, on the north

side, which may be considered as surrounded with trees, but not near enough to exclude light. The winner is required to study in Italy for at least four weeks, and give satisfactory evidence of his studies there in the form of measured drawings and sketches.

**THE HENRY SAXON SNELL PRIZE (CERTIFICATE AND £90)**, founded for the encouragement of the study of the improved design and construction of Hospitals, of Convalescent Homes, and of Asylums for the Aged and Infirm Poor, will be awarded to any member of the Architectural Profession (who may associate with himself any member of the Medical Profession) who produces the best Design for an Asylum for 200 Aged and Infirm Poor. The successful candidate will be required to spend not less than five weeks in a tour either in the United Kingdom or abroad, to study, examine, and report on the type of building for which he has won the prize, in the place or places he undertakes to visit.

**THE HENRY JARVIS STUDENTSHIP**, value £200 a year, tenable for two years at the new British School at Rome. Candidates must be British subjects and either Associates or registered Students of the Royal Institute. The competitions for the Studentship will be held in conjunction with the competitions for the Scholarship (tenable for three years at the British School at Rome) offered by the Royal Commissioners for the Exhibition of 1851, and will be conducted under the direction of the Faculty of Architecture of the British School at Rome. Candidates must be prepared to go through two competitions, of which the Final will be held about three months after the First Competition. Candidates will be entitled to compete more than once in the First Competition until they have gained the Student-

ship or are debarred by the age limit. Three months will be allowed for the preparation of designs, reckoned from the date of the publication of the subject with conditions. From the candidates who have competed in the First Competition the Faculty of Architecture will select not more than ten candidates for the Final Competition. The candidate placed highest in the Final Competition will be awarded the Jarvis Studentship, unless being also qualified for the Commissioners' Scholarship he elects to take the latter, in which event the Jarvis Studentship will be awarded to the candidate placed next on the list.

**THE GRISSELL PRIZE (GOLD MEDAL AND TEN GUINEAS)**, for the encouragement of the study of construction, and open to British subjects who have not been in practice more than ten years, will be awarded for the best Design for a Water Tower (to be constructed in any material) to hold 50,000 gallons, on high ground, to supply a town.

**THE ARTHUR CATES PRIZE (FORTY GUINEAS)**, founded for the promotion of the study of Architecture, more especially in relation to the application of geometry to vaulting, stability of edifices, and design, is open to British subjects who have passed the Institute Final Examination at one sitting. Candidates must submit not less than two sheets comprising one of studies of subjects of Classical or Renaissance, and one also of Mediæval Architecture, accurately drawn in perspective, and also not less than two sheets of detailed studies in relation to the application of geometry to vaulting and stability of edifice.

**THE ASHPITEL PRIZE (BOOKS VALUE £10)**, awarded to the student who distinguishes himself most highly in the Final Examinations of the current year.



Major-General Sir CHARLES ROSENTHAL, K.C.B., C.M.G., D.S.O. [*Associate*], French Legion of Honour, French Croix de Guerre with Palm, Belgian Croix de Guerre, Commander of the Second Australian Division (see JOURNAL for April, p. 124).

### The Annual Elections: New Nominations.

The following nominations have been made by members in conformity with By-law 33:—

#### As Vice-President.

CROSS: ALFRED W. S. [F.]. Nominated by Sydney Perks, E. Jeaffreson Jackson, M. E. Collins, J. Douglass Mathews, E. S. Underwood, Josiah Gunton. *Fellows*; Herbert W. Doe, *Associate*.

#### As Members of Council.

ANGEL: ROBERT J. [F.]. Nominated by Sydney Perks, W. Henry White, Max Clarke, E. Jeaffreson Jackson, J. Douglass Mathews, M. E. Collins. *Fellows*; Herbert W. Doe, *Associate*.

DICKSEE: BERNARD J. [F.]. Nominated by H. D. Searles-Wood, Wm. Woodward, W. A. Forsyth, A. Saxon Snell, Edward Mansell. *Fellows*; Leonard Elkington, E. Alex. Young, Lawton R. Ford. *Associates*.

EDWARDS: F. E. PEARCE [F.]. Nominated by Sydney Perks, W. Henry White, E. Jeaffreson Jackson, M. E. Collins, J. Douglass Mathews, A. Saxon Snell. *Fellows*; Herbert W. Doe, *Associate*.

FRASER: PERCIVAL M. [F.]. Nominated by Henry T. Hare, W. Henry White, Delissa Joseph, C. H. Brodie, Wm. Woodward, Max Clarke, Charles T. Ruthen. *Fellows*.

GILL: CHARLES LOVETT [F.]. Nominated by George Hubbard, A. E. Richardson, Arthur Stratton, S. D. Adshear. *Fellows*; Ernest B. Musman, Stanley C. Ramsey, Harold E. Moss. *Associates*.

GREEN: W. CURTIS [F.]. Nominated by E. Guy Dawber, John W. Simpson, Henry M. Fletcher, W. Alexander Harvey, H. D. Searles-Wood, D. Barclay Niven, J. J. Joass. *Fellows*.

RILEY: WILLIAM E. [F.]. Nominated by Sydney Perks, H. D. Searles-Wood, Arthur Keen, George Hubbard, D. Barclay Niven, W. Alex. Harvey, John W. Simpson. *Fellows*.

SNELL: A. SAXON [F.]. Nominated by Max Clarke, Edwin T. Hall, Wm. Woodward, Wm. H. Atkin-Berry, Sydney Perks, William A. Pite, W. Henry White. *Fellows*.

WHITE: W. HENRY [F.]. Nominated by Sydney Perks, W. Gillbee Scott, Max Clarke, D. Barclay Niven, John Murray, William A. Pite, Wm. Woodward. *Fellows*.

#### Associate-Member of Council.

HIORNS: FREDERICK R. [A.]. Nominated by H. D. Searles-Wood, W. E. Riley, Alfred W. S. Cross, Max Clarke. *Fellows*; Herbert Shepherd, W. Arthur Webb, W. R. Davidge. *Associates*.

#### Literature Committee.

NEWTON: WILLIAM GODFREY, M.A.Oxon, M.C. [A.]. Nominated by John W. Simpson, H. Austen Hall, Ernest Newton, Arthur Keen, Henry M. Fletcher, Godfrey Pinkerton. *Fellows*; Frank W. Knight. *Associates*.

### Attendances at Council and Standing Committee Meetings 1918-19.

#### COUNCIL (21 Meetings).

*Members of Council*.—Henry T. Hare, *President*, 20; Sir John Burnet, *Vice-President*, 0; Walter Cave, *Vice-President*, 13; J. Alfred Gotch, *Vice-President*, 4; Paul Waterhouse, *Vice-President*, 9; E. Guy Dawber, *Hon. Secretary*, 15; S. D. Adshear, 7; Robert Atkinson, 2; T. Edwin Cooper, 6; H. P. Burke Downing, 18; George Hubbard, 14; J. J. Joass, 5; Arthur Keen, 13; H. V. Lancaster, 5; W. R. Lethaby, 3; A. G. R. Mackenzie, 3; D. Barclay Niven, 19; Andrew N. Prentice, 4; H. D. Searles Wood, 19; F. M. Simpson, 7; John W. Simpson, 19; Percy S. Worthington, 1.

*Associate Members*.—P. Abercrombie, 1; Horace Cubitt (on service), 6; W. R. Davidge, 14; L. Rome Guthrie (on service), 1; Herbert Shepherd, 17.

*Representatives of Allied Societies*.—R. Burns Dick, 0; Isaac Taylor, 9; E. Percy Hinde, 10; W. Kaye-Parry, 0; A. F. Watson, 2; Sir Frank W. Wills, 1; W. A. Harvey, 10; S. Perkins Pick, 10; Walter Keppie, 0.

*Representative of Architectural Association*.—H. M. Fletcher, 16.

#### STANDING COMMITTEES.

*Art* (3 Meetings).—Robert Atkinson, 0; E. Guy Dawber, 0; H. S. East, 2; W. A. Forsyth, 2; J. B. Fulton, 0; J. Alfred Gotch, 0; Sidney K. Greenslade, 0; J. J. Joass, 0; Arthur Keen, 3; J. E. Newberry, 1; Ernest Newton, 0; Harry Redfern, 0; Halsey Ricardo, 1; Charles E. Sayer, 3; G. Gilbert Scott, 0; John W. Simpson, 0; Harry Sirt, 2; John Tapper, 1; Sir Aston Webb, 0; W. A. Webb, 2.

*Literature* (6 Meetings).—P. Abercrombie, 0; Louis Ambler, 0; Detmar Blow, 0; Arthur T. Bolton, 1; Sir John Burnet, 0; J. D. Crace, 2; W. J. Davies (deceased), 3; H. M. Fletcher, 5; Theodore Fyfe (on service), 0; F. R. Hiorns, 1; H. G. Ibberson, 3; Brook Kitchen, 0; Stanley C. Ramsey (on service), 1; A. E. Richardson (on service), 0; H. Heathcote Statham, 6; Arthur Stratton, 3; Paul Waterhouse, 0; H. H. Wigglesworth, 6; Leslie Wilkinson, 0.

*Practice* (7 Meetings).—W. H. Atkin-Berry, 6; Max Clarke, 7; H. P. Burke Downing, 0; Percival M. Fraser, 6; George Hubbard, 1; H. V. M. Emerson, 4; C. E. Hutchinson, 1; A. G. R. Mackenzie, 1; John H. Markham, 1; Alan E. Munby, 0; D. Barclay Niven, 6; F. A. Powell, 2; H. A. Satchell, 7; H. A. Saul, 3; J. Douglas Scott, 6; W. Gillbee Scott, 4; A. Saxon Snell, 4; F. W. Troup, 1; W. Henry White, 5; A. Needham Wilson, 0; Wm. Woodward, 5.

*Science* (6 Meetings).—H. Percy Adams, 0; Robert J. Angel, 3; R. Stephen Ayling, 0; H. W. Burrows, 4; Horace Cheston (deceased), 1; A. O. Collard, 5; Alfred Conder, 4; W. E. Vernon Crompton, 3; C. A. Daubney, 4; W. R. Davidge, 0; Bernard Dicksee, 6; J. E. Franck, 1; E. Stanley Hall (on service), 0; Osborn C. Hills, 5; George Hornblower, 1; W. Jacques (deceased), 3; Sydney Perks, 0; Herbert Shepherd, 4; H. D. Searles-Wood, 0; Digby L. Solomon, 2; E. A. Young, 3.

### Whitgift Hospital, Croydon.

Mr. C. H. Brodie [F.] having called the attention of the Council to what was happening at Croydon, the following correspondence has taken place:—

To the President of the  
Local Government Board,—

8th April 1919.

SIR,—The Council of the Royal Institute are informed that the Croydon Town Council have in contemplation the demolition for the purpose of a street-widening scheme of the charming old sixteenth century building known as the Whitgift Hospital at Croydon. On two occasions during the past sixteen years the building has been threatened, but has been saved by the timely intervention of those whose concern it is to preserve these interesting relics of the past. In 1909 the building was saved through the action of the Local Government Board, who refused a loan for the carrying out of a scheme of road widening which would have involved the destruction of the building.

I am to point out that these old buildings form a veritable treasure of art; hall, chapel and dormitories possess a character of their own which once destroyed can never be replaced. With the exception of the old church and the remains of the Archbishop's Palace, Croydon has scarcely anything left to remind it of the past. The Council



earnestly trust that the policy of the Board with regard to this building will be maintained, and that the destruction of a building possessing such architectural and historic interest will be prevented.

I am venturing to enclose herewith an extract from the Institute JOURNAL of November 1909, showing how the street-widening could be effected without any interference at all to the hospital and result in an infinitely better town improvement than would be brought about by the adoption of the Croydon Council's scheme.

I am, Sir, Your obedient Servant,

G. NORTHOVER, *Acting Secretary.*

The following reply was received from the Local Government Board :—

25th April 1919.

SIR,—I am directed by the President of the Local Government Board to advert to your letter of the 8th instant, and to state that no definite proposal involving interference with the above building is at present before this Board.

In the event of any such proposal being submitted by the Town Council of Croydon, the views of the Council of the Royal Institute of British Architects will be carefully considered.

I am, Sir, Your obedient Servant,

A. J. A. BALL, *for Assistant Secretary.*

On behalf of the Royal Commission on Historical Monuments, Mr. G. H. Duckworth, wrote to a Croydon resident on the 13th January 1910 :—

"Lord Burghclere asks me to tell you on behalf of this Commission that the Hospital will certainly be scheduled amongst those monuments in Surrey most worthy of preservation as soon as the time comes for the County in question to be brought under the special purview of the Commission."

#### The Government and Private Building.

An official statement has been issued to the effect that the impression which appears to prevail in many quarters that the Government has requisitioned building materials in connection with housing schemes to such an extent as to render it impossible for private orders to be placed is incorrect.

The Government, it is stated, is anxious not only to do nothing to hamper the building industry, but to encourage it as much as possible. Orders have been placed by the Government with brickmakers throughout the kingdom for about 800 million bricks. These orders do not by any means exhaust the total capacities of the yards. In a good many cases it is true that the Government has bought the total output of the yards, but this has been done to keep the makers in funds and not to earmark the bricks for the housing scheme. Permission is given freely to the makers enabling them to dispose of Government stocks for all purposes.

What applies to bricks applies also, it is added, to other building material. There is, therefore, no need to refrain from starting on building operations on the ground that the necessary material will not be forthcoming. Any further information required in the foregoing matters can be obtained on application from

the Director of Building Materials Supply, Caxton House, Tothill Street, London, S.W.1.

The Ministry of Munitions announce that Colonel H. C. Cole, C.B.E., F.S.I., has been appointed Controller of the Huts and Building Materials Section of the Surplus Government Property Disposal Board. All inquiries regarding the purchase of huts and building materials should be addressed to the Controller, as above, Artillery Mansions, Victoria Street, London, S.W.1.

#### Local Government Board's Housing Manual.

A *Manual on the Preparation of State-Aided Housing Schemes* has been issued by the Local Government Board, which, though primarily prepared for the guidance of local authorities, should be in the hands of all engaged in carrying out housing for the working classes, whether official or private undertakings. An introductory Memorandum summarises the general recommendations of the Board as to the development of housing schemes, and this is followed by a number of appendices dealing with particular questions in detail. The material for the appendices, which include the treatment of sites, the setting out of roads and drainage, and a description of recommended types of houses, is mainly drawn from the Building Construction Committee's (Tudor Walters) Report, but various amplifications have been made. A series of twenty-one plates illustrates "suggested house plans," and in regard to these it is wisely emphasised in the Memorandum, as well as in a circular letter addressed by the Board to local authorities, that they are only "for general guidance and are not intended to hamper initiative, or to prevent full expression being given to local customs and traditions, or to the use of local building materials." In treating of house design it is to be noted that the Board stipulates in its first clause that "competent architects should be employed to plan and design the houses to be erected. These will be in possession of the information embodied in the Building Construction Committee's Report and the Reports of the Women's Housing Sub-Committee . . . as well as that acquired by their own experience, and they should be acquainted with the mode of life and requirements of the people for whom housing provision is to be made." The manual is to be obtained from H.M. Stationery Office, 28 Abingdon Street, S.W., price 2s. 6d. net.

#### Antiquities of the Near East.

Sir F. G. Kenyon, Director and Principal Librarian, British Museum, President of the British Academy and Chairman of the Archaeological Joint Committee, writes to *The Times* of 6 May regarding the preservation of antiquities in the countries in the Near East opened up as a result of the war :—

In December 1918 the Foreign Office invited the British Academy to form, in conjunction with the leading archaeological societies of England, a joint committee, to deliberate on matters connected with the antiquities of the countries which have been or will be opened up as a result

of the war. It was considered urgent that some attempt should be made to organise the preservation of antiquities in territories such as Mesopotamia, Palestine, Syria, Asia Minor, Armenia, and Macedonia, and to gain international acceptance for certain principles of legislation for the administration of archaeology in these areas. Much work has been done by the committee in these and other directions, and much more remains to be done. The immediate object of this letter is to indicate a way in which those who have served in the Eastern campaigns can assist the objects of the committee. One of the tasks which it has set itself is the collection of records of all kinds of antiquities from the above-mentioned countries. Under antiquities we include ancient sites and buildings as well as portable objects; and by records we mean photographs (not necessarily on a large scale or of professional quality), drawings, plans, and rubbings or impressions or other copies of inscriptions. Only the trained archaeologist realises what important information can sometimes be gathered from such records, however imperfect. Any records sent to the committee will, after examination by experts, either be returned to the owners, if desired, or deposited in the keeping of societies, such as the Hellenic Society or the Royal Institute of British Architects, where they will be accessible for study.

All communications should be addressed to Mr. G. F. Hill, hon. secretary, Archaeological Joint Committee, British Museum, London, W.C.1, who will also be glad to give advice as to the Departments from which information about actual antiquities may be obtained.

#### Architects' Assistants' Professional Union.

The first meeting of the Architects' Assistants' Professional Union was held on 29th April for the purpose of extending the movement for the formation of a union for salaried architects, quantity surveyors, draughtsmen and technical assistants. Mr. John Sarvas [*Licentiate*] presided. The stated intention of the union is to secure: (1) The improvement of the status of the professional assistant; (2) the efficiency and training of professional men; (3) adequate salaries and payment for overtime; (4) open references; (5) abolition of unpaid assistants; (6) representation of assistants on professional bodies; (7) the encouragement of a feeling of co-operation between the practising architect and his assistants for the mutual benefit of both. In constituting the union it is proposed to have an executive council elected at a general meeting, which council should consist of fifteen members, two of whom would be elected by the probationary members. The President would be elected from the committee and by them, and would hold office for one year. Sub-committees would be elected by the general committee to deal with specific subjects, and their reports would be referred to the general committee for approval. Two hon. secretaries and the treasurer would be elected by the general meeting. A full member must be an assistant on work governed by the scales of the R.I.B.A. or M.S.A. at the time of application for membership, or must have had five years' experience and such technical training as might be approved by the Committee. The subscription for members would be 10s. per annum, and for probationary members 2s. 6d. per annum.

Those interested in this movement are asked to communicate with the Secretary at 35, Bedford Square, W.C., who will furnish any further information required and will enrol members.

#### Conference on the Condition of the Building Industry, Tuesday, 20th May, 1919, at 10.30.

The attention of Members is called to the time-table of the Conference, published under "Notices," on page 168 of this issue.

The Conference will be formally opened in the Galleries of the Royal Institute, by the Right Hon. Dr. C. Addison, President of the Local Government Board. The Chair will then be taken by Mr. Henry T. Hare, President R.I.B.A.

Papers will be read by Major Harry Barnes, M.P. [*F.*], Mr. Paul Waterhouse, F.S.A. [*F.*], Mr. A. A. Hudson, K.C. [*Hon. A.*], Mr. Harry Gill, representing the Society of Architects, Mr. F. H. A. Hardeastle [*A.*], representing the Surveyors' Institution; Mr. F. L. Dove, President of the National Federation of Building Trades Employers; Mr. Edmond J. Hill, President of the Institute of Builders; Mr. J. P. Lloyd and Mr. J. Murray, President and Secretary respectively of the National Federation of Building Trades Operatives.

The subjects of the Papers are as follows:

- Causes of the Present Abnormal Cost of Building and Inactivity in the Trade.
- The Present and Future Effects of Government Housing Schemes on Prices and Employment.
- The Competitive Contract System, should it be retained, abolished or modified?
- Processes and Organisation for Reducing Time and Cost of Construction.
- The Mutual Relations of the Architect, Builder, and Workman.
- The Influence on Building of the Finance Act 1910.

## REVIEWS.

### ENGLISH CHURCH WOODWORK.

*English Church Woodwork. A Study in Craftsmanship during the Medieval Period A.D. 1250—1550. By F. E. Howard and F. H. Crossley. 40. Lond. 1917. [B. F. Botsford, 94 High Holborn, W.C.]*

The authors give a clear and interesting account of the development of woodcarving in the period between the close of the XIIIth and beginning of the XVIth century, showing the stone arcade to be the usual inspiring motive in the earlier examples.

They lay great stress on the fact that each district has its own type—its own modifications of the national style: and they—very rightly—condemn those architects who falsify or contradict such traditions, since these traditions of local type must necessarily be maintained, not merely from a punctilious sense of correctness or "fussy antiquarianism," but to ensure consistency of effect and harmony of proportion with the setting of the work and its architectural surroundings. Modern architects have often failed grievously to observe this rule.

Colour decoration is thoroughly dealt with. The writers show clearly the old methods. With these, the modern ones contrast unfavourably. Again, in colouring there is the local school to be considered, and this is natural enough, since the different arrangement of the mouldings requires a correspondingly different placing of the colours.

Under the heading of "Structural Woodwork," timber porches, doors, and roofs are adequately explained both in the text and by a number of well-selected illustrations. These are most useful, as they not only portray beautiful designs, but also demonstrate interesting points of construction.

The chapter on the fittings of the Sanctuary shows that our authors have considerable knowledge—more so, in fact, than is betrayed by most writers on this subject. Their knowledge is that which is gained by study of the ancient chancels, and is thus based on fact and not on argument built on personal preferences.

The pictures of the Quire-stalls offer a final answer to all, if there be any, who would doubt the glory of the fully developed English tradition in woodcraft. So also are those showing the Bishop's thrones, the two examples especially mentioned being those at Exeter and St. David's. Of lecterns, the writers point out, there are two kinds; the one for the reading of the scriptures and the other for singing. The latter has a much more steeply sloping face for the book.

There is much attention given to Screenwork as a leading feature in the determining of style, and the reader will find many excellent photographs showing the characteristic differences found in the various localities. Several drawings are included—some to scale—of bench-ends, and we would especially note the fine series at Crowcombe. There are also many photographs in this section.

In the old days it was customary to shew much honour not only to the Altar but also to the Font—both being suggestive of the principal sacraments. The Font, so apt to look comparatively squat, was covered by a tower-like canopy, sometimes almost reaching the roof of the church—a mass of delicate and intricate tracery and pinnacles. Perhaps Ufford in Suffolk supplies the most beautiful example. Of this, a scale drawing is given. It has fallen to our lot to read many books dealing with some or all of the above-mentioned subjects, but it is probable that the section on font-covers in this work is more full and detailed than elsewhere to be found.

Considering the wide range of the work surveyed, the work may be commended for its thoroughness, and of Mr. Crossley's photographs it would be difficult to speak too highly.

FRED. BLIGH BOND.

## LEGAL.

### Reversion Duty under the Finance (1909-10) Act, 1910. ECCLESIASTICAL COMMISSIONERS FOR ENGLAND & INLAND REVENUE COMMISSIONERS.

An important case affecting the question of Reversion Duty payable under the Finance (1909-10) Act, 1910, was decided in the Court of Appeal on the 18th March, resulting in a decision against the Inland Revenue Commissioners. The facts of the case, as summarised by Mr. Justice Lush in the King's Bench Division, are as follows:—

The Ecclesiastical Commissioners were the owners of certain freehold property in Strutton-ground, Westminster. On 28th June 1907, they entered into a building agreement with intending lessees for improving the value of the property, by which the lessees undertook to pull down the existing buildings and to erect new ones, and to spend on the work not less than £3,000. The work being completed to their surveyor's satisfaction, the Ecclesiastical Commissioners agreed to grant a lease, or several leases, of the property for 80 years from 14th June 1907, at a total rent of £40 for the first year and £160 for every succeeding year. The agreement was not to operate as a lease. The work was done and the buildings duly erected, four leases being granted of the several plots and buildings for the agreed terms. In the case of No. 26, Strutton-ground, regarded as the material lease for the present case, the lessees spent £900 on the work, and, as they were builders, they were allowed to add an agreed profit of £150, making £1,050 agreed expenditure in all. The rent payable under the lease which was granted on 19th December 1907 was £10 for the first year and £40 afterwards. The lessees underlet the premises, consisting of a shop and dwelling-house, for 21 years, determinable at the end of the seventh and fourteenth years, at the rent of £130. That underlease was surrendered, and on 1st February 1913 the assignee of the lease of 1907 surrendered his term to the Commissioners from 25th December 1912. A new agreement was entered into, but nothing turned upon that, the question to be decided being what was the principle to be applied in order to ascertain the true value of the benefit accruing to the Commissioners through the determination of the lease under section 13 (2) of the Finance (1909-10) Act (10 Edw. VII., c. 8) section 13 (2) and section 3 (2) of the Revenue Act, 1911.

The Ecclesiastical Commissioners submitted that in determining the property value at the date when the lease was granted the total sum expended in building must be added to the capitalized rent. The Crown contended that this method of calculation was erroneous, and that only the present value to the reversioners of the sum so expended at the time of granting the lease, the enjoyment being deferred for the term of the lease, should be taken into consideration.

The Ecclesiastical Commissioners' method of valuing the benefit accruing to them in the present case gave the sum of £168, arrived at, as stated in the report in [1918] 2 K.B., p. 605, as follows:—

	Per ann.
Rent reserved ... ..	£40
Payments made, cost to builder of erection of buildings ... ..	£900
Builder's reasonable profit ... ..	150
Normal cost to lessee ... ..	£1,050
Reasonable rate of interest which lessee would expect on such a property in this position, 8 per cent. ...	84
Annual value which lessee would expect at 18 years' purchase ... ..	£124
Total value at grant of lease ... ..	£2,232
Total value at termination (as agreed) ... ..	£2,400
Total value at grant (as above) ... ..	2,232
Difference ... ..	£168

The Inland Revenue Commissioners contended that "the value of the benefit accruing to the lessor" by the determination of the lease was £1,378. This figure is arrived at as follows [1918] 2 K.B., at p. 607]:—

Agreed total value at determination of lease ...	£2,400
Total value at original grant of lease. Rent reserved, £40; years' purchase, 25 ... ..	£1,000
Payments made, cost of building, including reasonable profit, £1,050 ... ..	
Deferred 80 years on the 5 per cent. table ..	£22    £1,022
Benefit ... ..	£1,378

In allowing the appeal, the Master of the Rolls said that the assessment should be discharged, and it should be declared that the value of the benefit accruing to the Ecclesiastical Commissioners should be calculated in the manner contended for by them. A full report of the case will appear in *The Times Law Reports*.

Counsel engaged in the case were: Mr. Upjohn, K.C., Mr. Ryde, K.C., Mr. Barrington Ward, and Mr. Allen for the Appellants; and the Attorney-General and Mr. Sheldon for the Crown.

### MINUTES.

At the Twelfth General Meeting (Ordinary) of the Session 1918-19, held Monday, 28th April 1919, at 8 p.m.—Present: Mr. H. D. Searles-Wood (F.) in the Chair; 12 Fellows (including 2 members of the Council), 11 Associates, 4 Licentiates and several visitors—the Minutes of the Meeting held 14th April were taken as read and signed as correct.

The decease was announced of the following members: William Jacques, elected Associate 1880; Walter Ernest Hewitt, elected Associate 1892; Archibald Neil Campbell, elected Associate 1904; Matthew George Martinson, elected Licentiate 1910; Hugh Vaughan, elected Licentiate 1911.

On the motion of the Chairman, it was resolved that the very hearty congratulations of the Institute be conveyed to Mr. Ernest Newton, Past President, on his election as Royal Academician.

Sir Frank Baines, K.B.E., M.V.O., read the conclusion of his Paper on "War Factories and Sheds, and Their Adaptation to Future Needs" (adjourned from the 17th March), and illustrated it by lantern slides.

On the motion of Mr. Percival M. Fraser [F.], seconded by Mr. W. J. H. Leverton, *Licentiate*, a vote of thanks to the author of the Paper was carried by acclamation.

Sir Frank Baines responded and answered questions raised during the discussion.

The meeting terminated at 10.40 p.m.

At the Eighty-fifth Annual General Meeting (being the Thirteenth General Meeting of the Session 1918-19) held Monday, 5th May 1919, at 8 p.m.—Present: Mr. Henry T. Hare, *President*, in the Chair; 16 Fellows (including 2 members of the Council), 12 Associates (including 2 members of the Council), 1 Hon. Associate, and 3 Licentiates—the Minutes of the meeting held 28th April were taken as read and signed as correct.

Mr. Walter Cave, *Vice-President*, acting in the absence of the Hon. Secretary, announced the decease of the following members: William Neville Ashbee, elected Associate 1881, Fellow 1890; Cyril H. Montagu Jones, elected Associate 1911; Joseph Dixon White, elected Licentiate 1911.

The following Associates attending for the first time since their election were formally admitted by the President: William James Leahy and William Harkess.

The Annual Report for the official year 1918-19 was presented and its adoption formally moved by the President.

Mr. Walter Cave having seconded the motion the report was discussed by the following members: Mr. Wm. Woodward [F.], Mr. John Slater [F.], Mr. W. Henry White [F.], Mr. Max Clarke [F.], Mr. Percival Fraser [F.], Mr. C. H. Brodie [F.], Mr. Delissa Joseph [F.], Mr. W. S. Tucker [A.], Mr. Scott Cockrill [A.], and Mr. W. R. Davidge [A.].

The President having replied to points raised in the discussion the motion was put to the vote and it was

RESOLVED, unanimously, that the Annual Report for the official year 1918-19 be adopted.

The President called attention to the Lists of Attendances at the Council and Standing Committee meetings held during the Session which were laid upon the table.

On the motion of the President the thanks of the Institute

were accorded by acclamation to the Hon. Auditors, Mr. Henry A. Saul [F.] and Mr. H. S. East [A.]. Mr. Harold Goslett [F.] and Mr. C. E. Hutchinson [A.] were nominated Auditors for the ensuing year.

The President announced that the Adjourned General Meeting for the consideration of the Revised Scale of Charges would be held on Monday, 12th May.

The proceedings closed and the meeting separated at 9.40 p.m.

### COMPETITIONS.

The R.I.B.A. Competitions Committee warn members against taking part in limited competitions which involve the spending of public money where the conditions do not accord with the R.I.B.A. Regulations for Architectural Competitions. The Committee consider it to be the duty of members, in the interests of the profession, to forward to the Secretary R.I.B.A. in such cases a copy of the conditions without delay so that action may be taken to get irregular conditions put into proper order.

#### Ruislip Housing Competition.

The R.I.B.A. Competitions Committee request architects who have been invited to compete in the above competition to withhold work upon their designs until the conditions have been brought into conformity with the R.I.B.A. Regulations for Architectural Competitions.

#### Candidates for Election at Meeting of 2nd June,

##### AS FELLOWS [19].

ADAMS: PERCY HENRY [A., 1895], 32 Craven Street, W.C.2, and "Mathousa," Warlingham, Surrey.—*Proposers*: Osborn C. Hills, Arthur Ashbridge, And. N. Prentice.

ALLISON: RICHARD JOHN, O.B.E. [A., 1904], H.M. Office of Works, Storey's Gate, S.W.1, and 63 Hornsey Lane, Highgate, N.6.—*Proposers*: Sir Henry Tanner, K.C.B., Walter Pott, O.B.E., J. Dixon Butler.

BRIDGES: EDWARD JAMES [A., 1888], Lieut.-Colonel S.R.E.S., Headquarters R.E., 12 Wilton Road, Salisbury, and 33 Fowler's Road, Salisbury.—*Proposers*: The Council.

BRIGGS: MARTIN SHAW [A., 1905], 16 Brockenhurst Gardens, Mill Hill, N.W.—*Proposers*: Sydney D. Kitson, John Coleridge, Horace Farquharson.

BUNNEY: MICHAEL, M.B.E. [A., 1906], 33 Henrietta Street, W.C.2, and "Windhill," Meadway, N.W.4.—*Proposers*: Horace Field, E. Guy Dawber, Frank J. Potter.

CHESTON: JOHN ALLEFORD [A., 1912], 3 Tudor Street, New Bridge Street, E.C., and "Hampton Lea," Langley Park Road, Sutton, Surrey.—*Proposers*: Sir Alex R. Stanning, William E. Clifton, W. Campbell Jones.

COMYN: HEATON [A., 1900], 28 Austin Friars, E.C., and Hill Cottage, Orpington, Kent.—*Proposers*: Arthur Keen, Ernest Newton, R.A., F. M. Simpson.

FRANCK: JAMES ERNEST [A., 1900], 42 Russell Road, W.14.—*Proposers*: H. D. Searles-Wood, Ernest Newton, R.A.; Sir Reginald Blomfield, R.A.

GIBBONS: JOHN HAROLD, M.C. [A., 1902], 4 St. Mary's Parsonage, Manchester, and 14 Birch Grove, Rusholme.—*Proposers*: Sir Reginald Blomfield, R.A., Temple Moore, Jno. Gibbons.



- HALL: EDWIN STANLEY, M.A. Oxon [A., 1911], 54 Bedford Square, W.C.—*Proposers*: E. Guy Dawber, Sir Aston Webb, P.R.A., Sir Reginald Blomfield, R.A.
- HATHAWAY: PERCY WILLIAM [A., 1911], Town Hall, Rochdale, and 8 Harridge Street, Healey, Rochdale.—*Proposers*: Wm. H. Duncan, S. B. Russell, Raymond Unwin.
- HINCHLIFFE: PERCY ARCHIBALD [A., 1905], 14 Regent Street, Barnsley, and Wilcliffe, Victoria Street, Barnsley.—*Proposers*: Henry Perkin, J. Wreghitt Common, William H. Thorp.
- HOBDAY: WILLIAM HERBERT [A., 1902], 62 Moorgate Street, E.C., and 196 Upper Clapton Road, E.5.—*Proposers*: Owen C. Little, Harry Redfern, J. Craddock Perkin.
- MOORE: ARTHUR HENRY [A., 1892], 11 Dowgate Hill, Cannon Street, E.C.4., and Poyntell, Romford, Essex.—*Proposers*: James S. Gibson, William Dunn, S. D. Adshad.
- MYERS: NORMAN TOLLER [A., 1907], 12 New Court, Lincoln's Inn, W.C., and Hillcroft, Hills Road, Cambridge.—*Proposers*: Reginald H. Spalding, J. A. Gotch, Arthur Keen.
- SIMPSON: WILLIAM BEGG [*Licentiate*, recently passed the Qualifying Examination], 61 South Molton Street, W.1, and Little Pipers, Clay Hill, Enfield.—*Proposers*: Edmund Wimperis, James S. Gibson, Herbert Read.
- TOWSE: STANLEY [A., 1903], 9 Newcomen Street, S.E., and The Old Cottage, Tytlers Green, Hayward's Heath.—*Proposers*: E. Vincent Harris, Leonard Stokes, C. H. B. Quennell.
- WARD: WILLIAM HENRY, M.A. Cantab., F.S.A. [A., 1893], 2 Bedford Square, W.C.1.—*Proposers*: John W. Simpson, Edward Warren, and the Council.
- WATSON: WILLIAM ERNEST [A., 1905], F.S.I., F.R.San.I., No. 1 Western General Hospital, Liverpool.—*Proposers*: W. D. Caroe, Sir John J. Burnet, and the Council.
- As ASSOCIATES [165].
- [The candidates are, or have been, serving with His Majesty's Forces, and, being Students and duly qualified, have availed themselves of the concessions granted to Students so serving (see Special Regulations, JOURNAL for March 1918.)]
- ARCHER: HOWARD DENNES [S., 1914], Suffreysykes Park, Leyburn, Yorks.—*Proposers*: The Council.
- ARNOLD: RAYMOND CHARLES [S., 1912], 49 Thorold Road, Ilford, Essex.—*Proposers*: Sidney K. Greenslade, A. Dunbar Smith, E. Vincent Harris.
- ASHFON: ARTHUR, P.A.S.I. [S., 1907], Clifton Chambers, Wood Street, St. Anne's-on-Sea.—*Proposers*: Banister Fletcher, Chas. J. Dawson, W. Alexander Harvey.
- ATCHISON: HAROLD PERCY REYNOLDS [S., 1912], 38 Filey Street, Sheffield.—*Proposers*: F. E. Pearce Edwards, Ernest Newton, R.A., S. D. Adshad.
- BANKS: WILLIAM ARTHUR [S., 1911], Conway Terrace, 149 Corporation Street, Stafford.—*Proposers*: Banister Fletcher, Joseph Crouch, Leonard V. Hunt.
- BANNISTER: HARRY [S., 1915], 17 Ogier Road, Lillie Road, Fulham, S.W.6.—*Proposers*: Arthur Keen, Ernest Newton, R.A., T. Elwin Cooper.
- BARLEY: FRANCIS ALFRED [S., 1913], 10 Canewdon Road, Westcliff-on-Sea, Essex.—*Proposers*: Sir Charles A. Nicholson and the Council.
- BATES: CYRIL FRANCIS [S., 1912], 30 Commercial Street, Newport, Mon.—*Proposers*: Chas. F. Ward, Mervyn E. Macartney, E. Guy Dawber.
- BATTY: WILLIAM ARNOLD, M.C. [S., 1910], Hillside, Ben Rhydding, Leeds.—*Proposers*: C. H. Reilly, T. Elwin Cooper, Frank G. Briggs.
- BEAVERSTOCK: HORACE [S., 1914], "Beach Dene," Newstead Grove, Nottingham.—*Proposers*: A. Ernest Heazell, Ernest R. Sutton, Albert Bromley.
- BENJAMIN: HORACE BERNTON [S., 1906], 18 Priory Road, Acton Green, Chiswick.—*Proposers*: The Council.
- BESTOW: SIDNEY FRANCIS [S., 1913], 18 Market Street, Newcastle-on-Tyne.—*Proposers*: Charles S. Errington, R. Burns Dick, J. T. Cackett.
- BISIKER: ARTHUR MILTON [S., 1913], 60 Crouch Hall Road, N.S.—*Proposers*: W. R. Jaggard and the Council.
- BLACKMORE: ALFRED CHARLES [S., 1908], Westfield, Cardigan Road, Bridlington, Yorks.—*Proposers*: The Council.
- BONSER: KENNETH JOHN [S., 1913], Kinoulton, Brunswick Road, Sutton, Surrey.—*Proposers*: H. D. Searles-Wood, Arthur Keen, J. W. Stanley Burmester.
- BRACEWELL: ARTHUR [S., 1905], Willowbank, Keighley.—*Proposers*: Beresford Pite and the Council.
- BREWILL: LIONEL COLIN [S., 1912], Edwalton, Notts.—*Proposers*: Arthur W. Brewill, Albert Nelson Bromley, E. A. Rickards.
- BRIDGE: THOMAS MOSS [S., 1914], 31 Park Road, Walkden, Lancs.—*Proposers*: The Council.
- BROWN: JOHN, D.L., D.S.O. [S., 1900], 80 Abington Street, Northampton.—*Proposers*: J. W. Fisher, W. Talbot Brown, J. A. Gotch.
- BROWN: JAMES McLELLAN [S., 1913], City Engineer's Office, Dundee.—*Proposers*: James Lockhead, John Wilson, James Thomson.
- BRUTON: BERTRAND FREDERICK [S., 1912], 6a Peterborough Villas, New King's Road, S.W.6.—*Proposers*: S. D. Adshad, Raymond Unwin, Sidney Perks.
- BURFORD: JAMES [S., 1916], 16 Tregunter Road, Kensington, W.10.—*Proposers*: Robert Atkinson, Charles E. Varndell, H. D. Searles-Wood.
- BUTCHER: ALBERT JOHN [S., 1912], Hazlemere, Central Avenue, Stoke Park, Coventry.—*Proposers*: The Council.
- BUTTERWORTH: HAROLD, M.A. [S., 1917], Somerset Buildings, 19 Brazennose Street, Manchester.—*Proposers*: Paul Ogden, Isaac Taylor, Edward Hewitt.
- CAMPBELL: DUNCAN ALEXANDER [S., 1906], 51 North John Street, Liverpool.—*Proposers*: Arnold Thornely, Hastwell Grayson, Frank G. Briggs.
- CAWKWELL: ROBERT [S., 1913], 1 Standon Road, Wincobank, Sheffield.—*Proposers*: The Council.
- CHARLEWOOD: GEORGE EDWARD [S., 1910], 4 Mosley Street, Newcastle-on-Tyne.—*Proposers*: Charles S. Errington, R. Burns Dick, G. H. Fellowes Prynce.
- CHEADLE: JOHN OSCAR [S., 1911], 2 New Square, Lincoln's Inn, W.C.—*Proposers*: Sir Charles A. Nicholson, Beresford Pite, Hubert C. Corlette.
- CHERITON: WILLIAM GEORGE LLOYD [S., 1913], 20 Mount Ephraim Lane, Streatham, S.W.16.—*Proposers*: The Council.
- CHURCH: LESLIE DONALD ALGAR [S., 1913], "The Homestead," High Road, Epping, Essex.—*Proposers*: W. Gillbee Scott and the Council.
- CLARKE: JAMES ANDREW [S., 1911], 354 Waterloo Road, Cheetham Hill, Manchester.—*Proposers*: Isaac Taylor, Francis Jones, Percy S. Worthington.
- CLARKSON: GEORGE FLINT [S., 1909], 43 Holland Road, Kensington, W.14.—*Proposers*: A. Dunbar Smith, Sidney K. Greenslade, W. T. Walker.
- CLAYTON: GERALD RUPERT [S., 1915], 2 Oozehead Lane, Blackburn.—*Proposers*: The Council.
- COLE: EDWARD ROBINSON FERDINAND [S., 1914], 83 Bankhall Street, Bootle, Liverpool.—*Proposers*: C. H. Reilly, Hastwell Grayson, E. Percy Hinde.
- COOPER: FREDERIC ROLAND [S., 1908], "Southdene," Headlands, Kettering.—*Proposers*: Albert E. Sawday, J. A. Gotch and the Council.
- COPPLESTONE: THOMAS STAPLETON [S., 1911], 142 Cavendish Road, Clapham Common, S.W.12.—*Proposers*: Alfred Cox, J. S. Alder, Frank E. Smee.

- COULDREY: WALTER NORMAN [S., 1906], 19 Palace Avenue, Paignton, Devon.—*Proposers*: B. Priestley Shires, H. Lionel Thornely, J. A. Lucas.
- CROSSLAND: HARRY EWART [S., 1912], Woodleigh, Station Road, Sutton-in-Ashfield, Notts.—*Proposers*: Louis A. Westwick, A. Ernest Heazell, Ernest R. Sutton.
- CRUTCHLEY: FREDERICK ERNEST [S., 1908], 10 Queen's Grove Road, Chingford, Essex.—*Proposers*: Edmund Wimperis, T. T. Rees, C. H. Reilly.
- DAVIES: EDWARD CECIL [S., 1913], Abbotsford, Brambletye Park, Redhill, Surrey.—*Proposers*: T. Edwin Cooper, R. Atkinson, J. J. Joass.
- DONALDSON: BENJAMIN [S., 1911], 18 Windsor Avenue, Gosforth, Northumberland.—*Proposers*: R. Burns Dick, J. T. Cackett, Joseph Oswald.
- DOUGILL: WESLEY [S., 1913], Aysgarth, Wensleydale, Yorks.—*Proposers*: The Council.
- DYSON: ERNEST VINCENT [S., 1913], 4 Chapel Lane, Headingley, Leeds.—*Proposers*: Sydney D. Kitson, William H. Thorp, H. S. Chorley.
- EILOART: RONALD EDWARD [S., 1912], 17 Elsworth Road, N.W.3.—*Proposers*: Henry T. Hare, C. Wontner Smith and the Council.
- ELSTON: JAMES [S., 1910], 227 Field Coy. R.E., B.E.F.—*Proposers*: The Council.
- ELSWORTH: LANCELOT ANDREW [S., 1912], 41 Rotherwick Road, Golder's Green, N.W.4.—*Proposers*: Sir Aston Webb, P.R.A., Raymond Unwin and the Council.
- FARRER: JOHN CAMPLIN [S., 1912], 19 Crescent Road, Crouch End, N.8.—*Proposers*: Harold Bailey, Ernest Flint, George Elkington.
- FIRTH: JOSEPH PERCY [S., 1904], 12 Westfield Grove, Wakefield.—*Proposers*: H. S. Chorley, William H. Thorp and the Council.
- FISHER: KENNETH JOHN [S., 1914], Officers' Hospital, Llangammarch Wells, Brecon, Wales.—*Proposers*: H. S. Chorley and the Council.
- FOOTE: ALEXANDER ALLAN [S., 1913], 92 Warrander Park Road, Edinburgh.—*Proposers*: J. C. Wynnes, John Watson, W. T. Oldrieve.
- FOSTER: WILLIAM SYDNEY [S., 1912], 40 Broom Grove, Rotherham.—*Proposers*: Sir W. Alfred Gelder, W. S. Walker, L. Kitchen.
- FOSTER-TURNER: FREDERICK WESTWORTH [S., 1914], "Pevensey," Bury Farm Estate, Edmonton, N.9.—*Proposers*: Arthur W. Cooksey and the Council.
- GARRARD: CYRIL PROCTOR [S., 1913], 38 Westgate Street, Ipswich.—*Proposers*: The Council.
- GIBBONS: JOSEPH GEORGE [S., 1908], 106 Oak Tree Lane, Selly Oak, Birmingham.—*Proposers*: Alfred J. Dunn, Joseph Crouch, R. Savage.
- GISBY: ERNEST WILLIAM [S., 1910], 13 Meyrick Road, Stafford.—*Proposers*: The Council.
- GOSSLING: HUGH FOLEY [S., 1919], Annandale, 15 Birdhurst Road, Croydon.—*Proposers*: The Council.
- GRELLIER: CECIL [S., 1913], St. Martin's Croft, Epsom.—*Proposers*: H. P. G. Maule, Horace Field, William Grellier.
- HAGUE: HORACE VINCENT [S., 1909], 4 Cheapside, Derby.—*Proposers*: George H. Widdows and the Council.
- HALL: ROBERT BREARLEY [S., 1916], 320 Norton Way, Letchworth, (Passed Final Examination 1916.)—*Proposers*: The Council.
- HARDY: THOMAS CHARLES [S., 1915], 15 Carmichael Place, Langside, Glasgow.—*Proposers*: James Miller, John Watson, David Salmond.
- HARRISON: AUSTEN ST. BARBE [S., 1914], Amery, Beckenham, Kent.—*Proposers*: F. M. Simpson, E. Guy Dawber, H. D. Seales Wood.
- HART: EDMUND JOHN [S., 1911], 9 Bank Street, Salford, Manchester.—*Proposers*: Herbt. H. Brown, Isaac Taylor, Paul Ogden.
- HEYWOOD: LEONARD [S., 1914], 200 Chorley Old Road, Bolton, Lancs.—*Proposers*: John Bradshaw Gass, Arthur J. Hope, Joseph Pilling.
- HIGGS: HAROLD JOHN [S., 1910], Goring-on-Thames, Oxon.—*Proposers*: W. Roland Howell, Arnold Mitchell and the Council.
- HIGSON: HERBERT WALTER [S., 1906], 21 Wood Street, Bolton.—*Proposers*: John Bradshaw Gass, Jon. Simpson, Joseph Pilling.
- HILL: GEORGE NOEL [S., 1913], 4 Buckingham Road, Wallasey, Cheshire.—*Proposers*: Arnold Thornely, Frank G. Briggs, T. Talliesin Rees.
- HONEYMAN: JAMES MACLAREN [S., 1915], Invermark, Castle Road, Cathcart, Glasgow.—*Proposers*: H. E. Clifford, John Watson, David Salmond.
- HOOPER: ARNOLD FIELDER [S., 1913], Kelsey Corner, Beckenham, Kent.—*Proposers*: Sir Aston Webb, P.R.A., Leonard Stokes, Henry T. Hare.
- HOOPER: CHARLES OWEN [S., 1909], Holmwood, Hill Lane, Southampton.—*Proposers*: James Lemon and the Council.
- HOPKINS: WILFRID WALTER [S., 1915], 52 Teviot Street, South Bromley, London.—*Proposers*: J. C. Perkin and the Council.
- HOWE: JOHN LIBERTY [S., 1912], "Faringford," Northwood, Middlesex.—*Proposers*: H. P. G. Maule, W. A. Forsyth, Robert Atkinson.
- HOWE: WILFRED [S., 1908], 121 Upperthorpe Road, Sheffield.—*Proposers*: Henry Perkin and the Council.
- INGHAM: WALTER [S., 1910], County Hall, Beverley, E. Yorks.—*Proposers*: George H. Widdows, R. S. Jacobs, L. Kitchen.
- IRVING: DAVID WISHART [S., 1909], 11 Chambers Road, Southport.—*Proposers*: The Council.
- JENKINS: HERBERT LLOYD [S., 1908], 97 Breakspeare Road, Brockley, S.E.4.—*Proposers*: Walter Pott, A. Alfred Cox, Geo. McLean Ford.
- JENNER: THOMAS GORDON [S., 1909], 13 Grosvenor Place, Margate.—*Proposers*: George H. Widdows and the Council.
- JOHNSON: ARTHUR GERALD [S., 1913], 35 Cambridge Road, Wanstead, E.11.—*Proposers*: Robert Atkinson, Henry M. Fletcher, Herbert Wigglesworth.
- JONES: CHARLES FREDERICK [S., 1914], 9 Howard Gardens, Cardiff.—*Proposers*: Harry Teather, Lennox Robertson, George Halliday.
- JONES: NEVILLE WYNNE [S., 1914], 33 Hawthorne Avenue, Uplands, Swansea.—*Proposers*: Charles T. Ruthen and the Council.
- JONES: WILLIAM HAROLD [S., 1910], Woodbury, 24 Sunnyside Road, Hornsey Lane, N.19.—*Proposers*: W. Chas. Waymouth, Robert Atkinson, Maurice E. Webb.
- KELLOCK: ANDREW DUNCAN [S., 1913], 326 High Street, Portobello, Edinburgh.—*Proposers*: John Watson, J. C. Wynnes, W. T. Oldrieve.
- KNIGHT: DOUGLAS EDWARD [S., 1914], 29 Millicent Road, West Bridgford, Notts.—*Proposers*: A. N. Bromley, H. G. Watkins, A. Ernest Heazell.
- KNIGHT: WALTER JOHN [S., 1912], 44 Barclay Road, Fulham Road, S.W.—*Proposers*: Beresford Pite and the Council.
- KNOTT: ARTHUR JOHN [S., 1909], Rosemount, Winscombe, Somersetshire.—*Proposers*: George H. Oatley, Sir Frank W. Wills, Herbert Baker.
- LAWRENCE: FREDERICK ORCHARD [S., 1915], 164 Aigburth Road, Liverpool.—*Proposers*: C. H. Reilly, Arnold Thornely, F. G. Briggs.
- LEWIS: HAROLD MORGAN [S., 1914], "Sunnyside," Pontypridd.—*Proposers*: George E. Halliday, Harry Teather, Lennox Robertson.
- LEWIS: HORACE MERSHAM [S., 1900], The Pollards, Wokingham.—*Proposers*: Samuel J. Newman and the Council.

- LITTLE: TOM CURRY [S., 1905], 78 Coronation Road, Bristol.—*Proposers*: George H. Widdows, Sir Frank W. Wills, George H. Oatley.
- LYNNE: DANIEL ROY [S., 1911], 1 Corringway, Golder's Green, N.W.—*Proposers*: H. W. Chatters and the Council.
- MCBEATH: JOHN GORDON [S., 1914], Birnam House, Sale, Cheshire.—*Proposers*: Isaac Taylor, F. G. Briggs, Arnold Thornely.
- MACKAY: HARRY [S., 1913], 10, Clonmel Road, S.W.6.—*Proposers*: A. E. Richardson, C. Lovett Gill, S. D. Adshead.
- MACKENZIE: KENNETH BEAUMONT, M.C. [S., 1911], North House, Lockwood, Huddersfield.—*Proposers*: Harry Redfern, H. Favarger, Harry Sirt.
- MARCHANT: FRANCIS OLIVER, M.C. [*Special War Examination*], Hankow, China.—*Proposers*: Ernest Newton, Arthur Keen, Walter Cave.
- MARCHINTON: JAMES EDWARD [S., 1911], 76, Carter Knowle Road, Sheffield.—*Proposers*: J. B. Mitchell-Withers, Adam F. Watson, Wm. C. Fenton.
- MARTIN: CYRIL FREDERICK, B.A. Cantab. [S., 1909], 106 Colmore Row, Birmingham.—*Proposers*: Herbert T. Buckland, Sir Ernest George, Alfred B. Yeates.
- MARTIN: WILLIAM HERBERT [S., 1913], 15 Lunham Road, Upper Norwood, S.E.19.—*Proposers*: W. A. Aickman, Sydney Perks and the Council.
- MARTIN-KAYE: DOUGLAS NIEL [S., 1914], 7d Grove End House, St. John's Wood Road, N.W.3.—*Proposers*: Robert Atkinson, Charles E. Vauddell, Henry M. Fletcher.
- MAY: PERCY [S., 1905], 235 Devonshire Road, Honor Oak Park, S.E.23.—*Proposers*: Arthur T. Bolton, Alfred H. Hart, F. Winton Newman.
- MEREDITH: JOHN NELSON [S., 1914], Victoria Chambers, Prestatyn, N. Wales.—*Proposers*: The Council.
- MORTIMER: ALAN LEE [S., 1912], 134 Tempest Road, Leeds.—*Proposers*: John Bradshaw Gass, Arthur J. Hope and the Council.
- MORGAN: HUGH TOWNSEND [S., 1906], 88 Gower Street, W.C.1.—*Proposers*: F. M. Simpson, S. D. Adshead, Sir Reginald Blomfield.
- MORLEY: CYRIL SAVAGE [S., 1911], 83, Gartmoor Gardens, Southfields, S.W.19.—*Proposers*: Jos. Gunton, Percy W. Meredith, George Edw. Withers.
- MOSS: DONALD JOHN [S., 1912], 150 Belsize Road, Hampstead, N.W.6.—*Proposers*: Walter J. Burrows, W. F. Young and the Council.
- NEBOULT: BERNARD [S., 1913], Thorn Lea, Shipley, Yorks.—*Proposers*: C. H. Reilly, W. E. Willink, W. J. Morley.
- NORRIS: ERNEST BOWER [S., 1911], Rosemete, Port Erin, Isle of Man.—*Proposers*: Paul Ogden, Isaac Taylor, Edward Hewitt.
- PALMER: ROGER LIDDESDALE, M.C. [S., 1913], 70 Chancery Lane, W.C.—*Proposers*: E. Vincent Harris and the Council.
- PARKES: EDGAR MAINWARING [S., 1912], 180 London Road, Northwich.—*Proposers*: The Council.
- PETERS: THOMAS JAMES [S., 1909], 14 Hartington Street, Newcastle-upon-Tyne.—*Proposers*: R. Burns Dick, J. H. Morton, Charles S. Errington.
- PORTSMOUTH: OLIVER SPENCER [S., 1912], 7 Richmond Villas, Swansea.—*Proposers*: Glendinning Moxham, Chas. Stavard Smith, Charles T. Ruthen.
- RICHARDSON: HENRY JOHN [S., 1902], 63 Queen Victoria Street, E.C.—*Proposers*: H. Austen Hall, Alfred Cox, Philip Tree.
- RICHARDSON: JOHN BLYTHE [S., 1903], 62, Wentworth Road, Doncaster.—*Proposers*: W. Lister Newcombe and the Council.
- RICHLEY: NORMAN [*Special War Examination*], The Vicarage, Percy Main, Northumberland.—*Proposers*: W. Rushworth, Fredk. Willey, Arthur B. Plummer.
- ROBERTSON: DAVID [S., 1912], 53 Buccleuch Street, Dumfries.—*Proposers*: John Keppie, John Watson, David Salmond.
- ROBERTSON: GODFREY ALAN KEITH [S., 1911], c/o Miss Steven, Barden Towers, Strandtown, Belfast.—*Proposers*: N. Fitzsimmons, F. H. Tulloch, R. M. Young.
- ROLLO: ROBERT LESLIE [S., 1918], 9 Lennox Road, Cardonald, by Glasgow.—*Proposers*: James A. Morris, Sir John J. Burnet, John Watson.
- RUBERY: SAMUEL [S., 1912], 49 Lonsdale Road, Wolverhampton.—*Proposers*: C. E. Bateman, Arthur Harrison, W. Alexander Harvey.
- SANDERS: THOMAS ANDREW [S., 1919], 5, Gloucester Road, Southport.—*Proposers*: C. H. Reilly, S. D. Adshead and the Council.
- SATCHELL: HUGH GLANVILLE [S., 1919], "Charlbury," Castle Bar Road, Ealing.—*Proposers*: E. Vincent Harris, J. Edwin Forbes, Robert Atkinson.
- SEABROOK: SAMUEL BROUGHTON [S., 1910], 12 Eastwood Road, S. Woodford, N.E.—*Proposers*: The Council.
- SELLECK: GEORGE BROOKING [S., 1906], 2 Greenbank, Plymouth.—*Proposers*: Percy Morris, James Crocker, B. Priestley Shires.
- SHENSTONE: GERALD [S., 1913], Caswell, Glen Road, Leigh-on-Sea.—*Proposers*: Charles E. Vauddell, Robert Atkinson, Horace White.
- SHIBLEY: ALBERT REGINALD [S., 1913], Belmont, Sheringham, Norfolk.—*Proposers*: C. H. Reilly, E. H. Bourchier, Sydney Tatchell.
- SLATER: NORMAN WOODFORD [S., 1914], Knutton Road, Wolstanton, Staffs.—*Proposers*: The Council.
- SPOONER: FRANK PHILIP [S., 1912], Clive House, The Bishop's Avenue, East Finchley.—*Proposers*: A. Dunbar Smith, Sidney K. Greenslade, Alfred H. Hart.
- STAINSBY: GEORGE PAWSON [S., 1917], 9 Endsleigh Gardens, N.W.—*Proposers*: F. Willey, W. Rushworth, W. T. Jones.
- STEWART: CUTHBERT BERTRAM [S., 1914], 29 Stanhope Road, Darlington.—*Proposers*: Geo. T. Brown, W. Milburn, R. Burns Dick.
- STEWART: ADAM KNOWLES [S., 1914], Creeve, Loughgilly, Co. Armagh.—*Proposers*: Robert M. Young, Paul Waterhouse, N. Fitzsimons.
- STOBART: FOSTER ROWLAND [S., 1913], Harewood, Grange Road, Newcastle-on-Tyne.—*Proposers*: Geo. T. Brown, R. Burns Dick, J. T. Cackett.
- STONE: JOHN THOMAS [S., 1915], 4 Creswick Walk, N.W.4.—*Proposers*: Raymond Unwin, A. E. Richardson, C. Lovett Gill.
- STONER: ARTHUR PHILIP [S., 1912], "Arrochar," Dyke Road, Brighton.—*Proposers*: George H. Widdows and the Council.
- STREADWICK: VERNON JAMES [S., 1914], 84 Tulse Hill, Brixton, S.W.2.—*Proposers*: A. E. Richardson, C. Lovett Gill, S. D. Adshead.
- STRICKLAND: HARLEY CLARENCE WILFRID [S., 1914], 37 Mount Road, Sunderland.—*Proposers*: A. Saxon Snell, Banister Fletcher and the Council.
- SUDDARDS: FRANK, P.A.S.I. [S., 1908], 5 St. John's Terrace, Heysham Road, Morecambe, Lancs.—*Proposers*: J. Duncan Tate, J. Gordon Allen, W. J. Morley.
- SUTCLIFFE: FREDERICK [S., 1911], "Wyngarth," King's Road, Colwyn Bay, N. Wales.—*Proposers*: C. Ernest Elcock, Francis Jones and the Council.
- SYMINGTON: HERBERT ANDREW [S., 1908], The Cottage, Narborough, Leicestershire.—*Proposers*: H. L. Goddard, Howard H. Thomson, Arthur H. Hind.
- TAYLOR: JOHN ALEXANDER CHISHOLM [S., 1915], The Manse, Waterhead, Oldham.—*Proposers*: Robert Atkinson, Henry M. Fletcher, Herbert Wigglesworth.

- THOMAS: ARTHUR PHILIP [S., 1910], Danygraig, Southern Down, Bridgend, Glam.—*Proposers*: R. Elsey Smith and the Council.
- THOMAS: CHARLES STANLEY [S., 1908], 29 Broughton Road, Handsworth, Birmingham.—*Proposers*: The Council.
- THOMAS: WILLIAM NORMAN [S., 1911], 6 Norman Road, Northfield, Birmingham.—*Proposers*: The Council.
- THOMERSON: HAROLD ALBERT [S., 1911], Holmby House, 46 Kenninghall Road, Upper Clapton.—*Proposers*: Thos. E. Colcutt, H. P. Burke Downing, George Hubbard.
- THORPE: ALEXANDER [S., 1910], 6 Newton Road, Bayswater, W.—*Proposers*: Edmund Wimperis, C. Lovett Gill, A. E. Richardson.
- UNSWORTH: GERALD [S., 1904], Steep, Petersfield, Hants.—*Proposers*: Thos. E. Colcutt, Sir Ernest George and the Council.
- WARWICK: JAMES GUY [S., 1915], 103 Park Road, Peterborough.—*Proposers*: Robert Atkinson, Henry M. Fletcher, Herbert Wigglesworth.
- WELCH: HERBERT ARCHIBALD [S., 1909], "Headlands," Huddersfield, Yorks.—*Proposers*: J. Reginald Naylor, G. Hanson Sale, Thomas B. Whinney.
- WEST: JOHN ARCHIBALD [S., 1911], 98 Leslie Road, Sherwood Rise, Nottingham.—*Proposers*: H. G. Watkins, Ernest R. Sutton, Robert Evans.
- WESTCOTT: GEORGE [S., 1893], West Gate, Cheddle, Cheshire.—*Proposers*: Francis Jones, Isaac Taylor, John H. Woodhouse.
- WILKINS: VICTOR [S., 1900], "Oak Lodge," Thornton Heath, Surrey.—*Proposers*: Jos. Gunton, Henry M. Fletcher, Paul Waterhouse.
- WILLMAN: JOHN HENRY [S., 1905], 65 Greenaway Avenue, Taunton.—*Proposers*: F. W. Roberts and the Council.
- WILLS: TRENWITH LOVERING [S., 1910], Hightown, near Liverpool.—*Proposers*: C. H. Reilly, Detmar Blow and the Council.
- WILSON: PERCY THOMAS [S., 1911], 27 Blomfield Road, Warwick Avenue, W.9.—*Proposers*: Sidney V. North and the Council.
- WILSON: JOSEPH [S., 1913], 138 Sinclair Drive, Langside, Glasgow.—*Proposers*: James Lochhead, Alexander N. Paterson, John B. Wilson.
- WINERBAUM: GOODMAN GEORGE, P.A.S.I. [S., 1915], 13 Shiplake, Calvert Avenue, N.E.—*Proposers*: The Council.
- WOOD: THOMAS SPENCER [S., 1915], Hawthorne House, Handsworth Wood, Birmingham.—*Proposers*: C. E. Bateman, Arthur Harrison, John P. Osborne.
- WRIGHT: CHARLES HENRY [S., 1912], 49 Market Square, Aylesbury.—*Proposers*: The Council.
- WYETH: JOSEPH HENRY [S., 1906], "Westview," Beeches Avenue, Catshalt, Surrey.—*Proposers*: The Council.
- YEOMAN: GUY HEMINGWAY [S., 1906], 10 Shrubbery Road, Streatham, S.W.16.—*Proposers*: Arthur Keen, Ernest Newton, Winton Newman.

Mr. C. G. BOUTCHER [A.] wishes it known that he has returned from the Malay States on twelve months' furlough and that his address while in England will be 36, Adelaide Road, Brockley, S.E.4.

Mr. LEONARD W. BARNARD [F.] of Cheltenham, writes that he has returned from France and started practice again.

#### Second Impression of the Cottage Designs Book.

HOUSING OF THE WORKING CLASSES: Cottage Designs awarded Premiums in the Competitions conducted by the R.I.B.A. with the concurrence of the Local Government Board. Second Impression. Price 4s. 6d.—R.I.B.A., 9, Conduit Street, London, W.; the Trade supplied by Messrs. B. T. Batsford, Ltd., 94, High Holborn, W.C.

## NOTICES.

Conference on the Condition of the Building Industry, Tuesday, 20th May 1919, at 9 Conduit Street, W.

Chairman: Mr. HENRY T. HARE, President R.I.B.A.

10.30 a.m.—Opening of the Conference by the Right Hon. Dr. ADDISON, President of the Local Government Board.

10.45 a.m.—Papers by Major Harry Barnes, M.P. [F.], Mr. Paul Waterhouse [F.], Mr. Harry Gill (representing the Society of Architects), Mr. F. H. A. Harcastle [F.] (representing the Surveyors' Institution), Mr. F. L. Dove (representing the National Federation of Building Trades Employers), Mr. Edmond J. Hill (representing the Institute of Builders), Mr. J. P. Lloyd and Mr. J. Murray (representing the National Federation of Building Trades Operatives), and Mr. A. A. Hudson, K.C.

2.30 p.m.—A brief review of the Papers by the Chairman: Discussion; and Resolution.

#### Mr. Lubschcz' Paper on American Railway Stations, 26th May.

THE FOURTEENTH GENERAL MEETING (ORDINARY) of the Session 1918-19 will be held Monday, 26th May 1919, at 8 p.m., for the following purposes:—

To read the Minutes of the previous Meeting; formally to admit members attending for the first time since their election.

To read the following Paper:—

#### RAILROAD TERMINALS OF THE UNITED STATES.

By BEN. J. LUBSCHEZ, of New York, Fellow of the American Institute of Architects.

#### The Annual Elections, Monday, 2nd June.

THE FIFTEENTH GENERAL MEETING (BUSINESS) of the Session 1918-19 will be held Monday, 2nd June 1919, at 8 p.m., for the following purposes:

To read the Minutes of the Meeting held 26th May; formally to admit members attending for the first time since their election.

To receive the Report of the Scrutineers appointed to direct the election of the Council, Standing Committees, etc., for the year of office 1919-20.

To proceed with the election of candidates for membership [see names, etc.: pp. 164-68].

#### Major Warren's Paper, Monday, 16th June.

#### AN ARCHITECT'S WAR EXPERIENCES IN FRANCE AND THE BALKANS.

By EDWARD WARREN [F.], Major, Serbian Army.



